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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

(WITH WHICH THE ANNALS OF THE BRITISH HOMŒOPATHIC SOCIETY AND THE ANNALS OF
THE LONDON HOMŒOPATHIC HOSPITAL ARE INCORPORATED.)

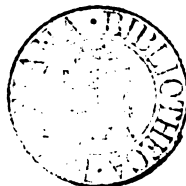
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VOL. XXXI.



IN CERTIS UNITAS, IN DUBIIS LIBERTAS, IN OMNIBUS CHARITAS.

LONDON:

HENRY TURNER & CO., 77, FLEET STREET, E.C.;

MANCHESTER: 41, PICCADILLY.

MAY BE HAD ALSO FROM

EDINBURGH: J. C. POTTAGE, 117, PRINCESS STREET.

DUBLIN: J. A. RAY, GREAT GEORGE STREET.

NEW YORK, U.S.: BOERICKE & TAPEL, 145, GRAND STREET.

MDCCLXXIII.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

VERTIGO—A PATHOLOGICO-THERAPEUTICAL
STUDY.

By Dr. J. KAFKA.*

At the present time, when this morbid condition affects a great part of the commercial, financial, and industrial world, and that, as it would seem, permanently, it will not appear out of place to dilate on this subject in its pathological and homœopathico-therapeutical bearing.

Vertigo consists in the sensation of an apparent motion, which one, being duly sensible, either perceives in one's self or else in surrounding objects; and one has at the same time a feeling of losing one's equilibrium, and a sensation of uncertainty in standing, walking, sitting, or lying.

It is a peculiar affection of the motor nerves which originates either in the brain itself, in the cerebral nerves, or else in distant ganglia or organs.

It occurs therefore either *primarily* or *secondarily*.

Primary vertigo, also called cerebral vertigo, arises either

* From the *Allgemeine Homöopathische Zeitung*, Bd. 85, No. 2. The author is the editor of this Journal. Translated by Dr. Burnett.

from diseases of the brain itself, viz., traumatic processes, concussion, exudation into the brain or between the meninges, tumours, tubercles, carcinoma, atheromatous degeneration, or rigidity of the parietes of the cerebral vessels, &c. ; or from external influences, which first affect the sensory nerves, and subsequently the brain, viz., dancing, turning, swinging, stooping, riding backwards, sea voyaging, sudden change from light to darkness, quick alternation of objects, excessive exertion of the eyes by much reading, particularly in the twilight, or in strong artificial light, looking down from a considerable height, with or without fear of falling down, particularly from narrow paths or dangerous cliffs, quickly turning one's self round, or also looking suddenly at the sky or lofty objects, harsh noises that disagreeably affect the ear, noisy deafening music. Primary vertigo can likewise be produced by atmospheric influences, such as a high temperature, the air in a storm, mephitic exhalations, as also by the aroma of plants, by fumigations, by anæsthetics, intoxicants, narcotics, and by substances that are spirituous or ethereal, and by such as contain carbonic acid.

Secondary vertigo occurs in various forms—

1st. It may be *hyperæmic* or *congestive*, from suppressed hæmorrhages—menstrual or hæmorrhoidal ; it occurs in women who are in the menopausal period of life, and in persons who suffer from habitual hæmorrhages (*hæmophilia*), when the usual flow has been too long absent. We find it also in habitual epistaxis, as here too, when the hæmorrhage does not appear for some time, there is a rush of blood to the head.

Congestive vertigo is often a precursor of apoplexy.

2. *Anæmic vertigo* is observed after great loss of blood, or other vital fluids or forces, viz., chronic diarrhœa, frequent ejaculations seminis, too long-continued suckling, too great bodily exertion, hard study, much and continuous thinking (the vertigo of savants), much and continuous learning by heart, convalescence after severe diseases, &c. The smallest loss of blood or other vital fluid, as, for instance, a cut of the finger, two or three watery stools, a single

involuntary nocturnal emissio seminis; even simply looking at a disagreeable, disgusting, or horrible object, can produce a vertigo, which is accompanied by ringing in the ears, cold extremities, a small thready pulse, and which may go on even to insensibility or fainting. Likewise in chlorosis, in marasmus, and in the anæmia of old age this kind of vertigo may often be observed.

3. *Static vertigo* may have the following causes, viz., pressure of tumours on the vessels of the neck, pressure of neckties, or corsets which fit too tightly; cardiac disease, as, for instance, in hypertrophy of the left ventricle, fatty enlargement of the heart, insufficiency of the semilunar valves, disturbances of the circulation consequent on tumours in the abdominal cavity, aneurisms of the aorta, atheromatous degeneration of the walls of the large blood-vessels, &c. Perhaps we might also reckon the vertigo consequent on constipation, pregnancy, flatulent distensions of the abdomen, &c., to this kind.

4. *Nervous vertigo* is observed in many susceptible persons, and in such as appear to be robust, but in reality are very irritable, in hysterical and in hypochondriacal persons, after sudden surprise; in various psychical affections, as fright, fear, anxiety, &c. Here and there it is the forerunner of epilepsy.

5. *Toxic vertigo* is observed to arise from the influence of narcotic and of many other remedies which we know from physiological pharmacodynamics, or it may be caused by coal gas, by petroleum, &c., or by the influence of the different contagions, viz., scarlatina, measles, variola, cholera, dysentery, typhus, plague, &c., in which we generally have the vertigo first, and the vomiting subsequently. With this kind of vertigo we may perhaps reckon that which occurs after violent psychical effects, as anger, which degenerates into rage, and very violent fright from life-threatening accidents, likewise the vertigo of malaria, which is occasionally epidemic, and the vertigo intermittently occurring from house-malaria, as in damp close habitations, which are badly ventilated or not ventilated at all, and in those that are connected with drains.

The precursors of vertigo are different, according to the kind of action to which the brain and the nerves immediately connected with it are subjected. Thus, in hyperæmic vertigo, we first observe a gradual flushing of the face and ears, the head gets hot, the eyes become brilliant and injected, the carotids pulsate violently; there are hallucinations, chromatopsia, photopsia, diplopia, ringing in the ears, and then follows the vertigo. Anæmic vertigo is generally preceded by remarkable pallor of the face, dimness of vision, singing, rustling, humming in the ears, coldness of the extremities, small pulse, a sensation of faintness. Toxic vertigo generally begins with a feeling of chilliness, cold sweat on the face, continually increasing faintness and insensibility; then follows the vertigo, which in most cases is accompanied by vomiting, coldness of the extremities, and a feeling of great languor. In static vertigo the cheeks, lips, and nails turn a bluish red, the face becomes puffy, the head gets hot, the carotids pulsate violently. Nervous vertigo generally commences with shiverings, pallor of the face, or a circumscribed blush on the cheeks, excitement, and sometimes with sleepiness, and in very susceptible individuals the subsequent dizziness is accompanied by nausea and even vomiting.

Vertigo occurs either with the just mentioned precursors, or suddenly without any warning. The apparent motion affects one's own body or its surroundings; in the former case, the patient thinks he is reeling and losing his equilibrium, he is unsteady in standing, walking, sitting, or lying; he is afraid, and has a sensation of falling forwards, to the side, or backwards, and has, at the same time, a desire to hold on to a firm object of some kind, or he straddles and throws his hands forwards, or he leans against the nearest object with a consciousness of lost security, and wants to give his body support lest he fall. Connected with this there is generally an apparent movement; at one time the surrounding objects, room, or space whirl round in a circle or semicircle, changing here and there with extraordinary rapidity, and in different directions—now horizontal, then vertical, and again half vertical, or the objects seem to flee,

sometimes forwards, at other times backwards ; they seem to be double, or to move up and down, or the patient has a sensation as if the surrounding objects would fall on him and crush him (generally observable in cerebral and cardiac disorders).

Frequently such an attack of vertigo disappears without entailing any further consequences. The apparent motion becomes gradually less, the sensation of security and bodily equipoise gradually supervenes until the normal condition has returned. If, however, the apparent movement continues or increases, the surrounding objects gradually disappear in chaos ; the entire field of vision becomes obscured ; the patient can no longer maintain the erect posture, he falls, sometimes unconscious, but nearly always powerless, especially after the use of anæsthetics or alcoholic beverages he is in a comatose condition ; after hæmorrhage we find him as if in syncope ; in cerebral congestion he lies as if struck down by apoplexy ; in excessive nervousity we might think he has an epileptic fit.

In some patients *vertigo* arises when they begin to move about, in others when they rise from a seat or from bed. In some, particularly in the aged, it occurs when the head is turned to the side ; and one has often an opportunity of observing that such persons prefer turning their whole bodies when they want to look to one side, and then when they want to look up, especially at lofty objects, they generally step back a few paces, rather than bend the head back. In the hyperæmic it happens very frequently when they stoop. In the nervous it takes place when they look aloft, or down a great depth, and in these even an empty stomach or the sight of an object that is disagreeable will produce giddiness, for instance, wounds, sores, bleeding, &c. Hyperæmic, nervous, and toxic vertigo, occur frequently in the recumbent posture and during sleep ; here the patient is every minute tossing his hands about and trying to seize hold of the bedstead or other object. Patients who sit a good deal and are much occupied with reading and writing, particularly those who occupy themselves by strong artificial light, feel giddy when they move about and have a sensation of falling

to the right or to the left, or forwards or backwards. This kind of vertigo I have several times observed in premature marasmus, in masturbators and after great loss of the vital forces. In the hysterical and hypochondriacal there are at times visual hallucinations which consist in this, that during the giddiness the head or trunk appears bigger, or the extremities seem bigger or longer, or objects are double or multiplied ; the body may appear double or halved, or round objects pointed, or pointed ones round. In those who continually use their eyes too much there are, during the vertiginous attack, *muscæ volitantes*, and the black spots that seem to fly about before the eyes sometimes become united to a single black circle or blotch (*scotomia*), by which their vision is considerably impaired. In the hyperæmic and also in the nervous I have often observed that the vertigo was followed by violent headache with subsequent vomiting, or inversely. Vertigo is observed most frequently in middle-aged persons, and in old age, much less frequently in youth, and very rarely in childhood. Nevertheless cases do not so very seldom come before us for treatment where the sufferers are very young persons and even children, and in whom the disease is sometimes in consequence of hyperæmia or anæmia and sometimes from too great intellectual exertion with coexistent mental weakness or inaptitude at learning, or also in consequence of the continual exertion of the eyes by much reading, stitching, or fine needlework.

The prognosis in these kinds of vertigo in which the cause can be got rid of is, generally speaking, favorable. Diseases of the brain, or of the heart, tumours, aneurisms, atheromatous degeneration of the parietes of the vessels admit of no favorable prognosis. In the *scotodinia* which frequently precedes epileptic and apoplectic attacks, we must be very careful in our prognostications. The prognosis is favorable where the cause is transitory. Continual vertigo, particularly after heavy meals or considerable exercise, is frequently the harbinger of apoplexy. The vertigo of marasmus and of old age seldom justifies a favorable prognosis. That kind of vertigo which is complicated with

scotomia causes us to fear the supervention of amblyopia or amaurosis.

Therapeia.

In the homœopathic treatment of vertigo our first object is to get rid of the cause. We further pay attention to the form under which it manifests itself, and to the phenomena which precede, accompany, or follow it. It is very difficult to hit upon the right remedy, because the diagnosis in many cases is no easy one; however, the law of similars will generally help us to a favorable result, and it is only necessity which now and again compels us to fall back upon the pathological process to help us in the choice of a remedy.

It may be affirmed that the results of homœopathic treatment are extremely favorable, for it often succeeds in cases in which allopathy has long been fruitlessly employed. Even in those vertiginous attacks resulting from organic lesions, as, for instance, in cerebral, cardiac, and abdominal diseases, in diseases of the vessels, &c, a good choice of remedies allows a certain degree of amelioration to be attained.

As to the causal cure, persons who readily become giddy should avoid everything likely to bring on an attack, such as swinging, turning round, looking down from aloft, riding backwards, smoking, the aroma from flowers, immoderate exertion of the eyes, deafening music, high temperature, hot rooms, stenches, spirituous and effervescent drinks, narcotic and ethereal remedies, ethereal oils, &c.

In the treatment of *primary* vertigo we must accurately differentiate as to whether the affection arises from the brain or from its nerves; further, we must see whether it is accompanied by hyperæmia or anæmia, by hypertrophy or atrophy of the brain, or by any constitutional anomaly, such as tuberculosis, scrofulosis, rachitis, &c.

Cerebral vertigo, consequent on trauma, such as a fall, kick, &c., demands in every case, whether the patient is flushed or pallid, hot or cold, and be the pulse full or

small, the immediate administration of *Aconite* 3 in solution, in half-hourly or hourly doses, for by this means further consequences from the traumatic cause, more particularly threatening inflammation, are obviated in the most certain and expeditious manner. The simultaneous applications of cold cloths in such cases are calculated to powerfully assist the action of *Aconite* in keeping down inflammation, and moderating the congestion to the brain. The apparent motion, the threatened loss of bodily equilibrium, and of certainty in walking and standing, are only the first symptoms by which we recognise the traumatic action on the brain; if we combat this at once with energy, it often happens that the further degrees in the development of cerebral irritation are prevented.

Many practitioners prefer *Arnica* to *Aconite* in such cases, but according to my conviction the former remedy is only applicable when, besides the vertigo, we have loss of the senses, which phenomenon, however, indicates concussion of the brain, and here *Arnica* 3 may be administered, and *Arnica* stupes employed to very great advantage.

If we do not get a decided amelioration soon after the use of *Aconite*, we may be certain that there is either a high degree of hyperæmia, or an inflammatory process in the brain, or in the meninges in process of development. Extravasations into the brain or real cerebral concussion are mostly accompanied by immediate loss of consciousness, and are therefore not within my province.

Against the more and most severe degrees of cerebral hyperæmia we possess very estimable remedies in *Belladonna*, *Atropia*, *Apis*, *Hyoscyamus*, and *Stramonium*, which correspond as well to the inflammation of the brain as to the depression or exaltation accompanying it.

Cerebral vertigo, consequent on tumours in the brain, is either *circular*, when patients have a feeling as if everything were whirling round them, and against which we employ *Nux vom.* 3 or 6, or *Phosphorus* 3 or 6, or also *Arnica* 3 or 6, or we may sometimes expect a transient amelioration from *Argent. nit.* 3 or 6; or it is as if patient were *stunned*, and which *Calc. carb.* 6 or *Silicea* 6 can ameliorate; or it is of the

swooning kind, when there is a feeling as if the slightest movement would produce syncope, and which we can alleviate with *Natrum mur.* 6 or *Spigelia* 6. It is quite impossible to sublimate this kind of vertigo entirely, because the tumours are mostly incurable. An exception to this are those tumours due to syphilis or periostitis; in the former case we may get a happy result from the methodic administration of *Mercurius jodat.*, *Merc. corr.*, or *Acid nit.*, and here and there from *Mezereum* 3 to 6. In the latter case from *Silicea* or *Sulphur* 6, *Phosph.* or *Nat. mur.* 3 to 6.

Vertigo from hypertrophy of the brain arises only when the circumference of the brain increases after closure of the fontanelles, and the skull ceases to increase. As long as the fontanelles are patent the increase in the brain produces no remarkably morbid symptoms, because the cranium becomes correspondingly distended. This vertigo is of a congestive nature, because the afflux and efflux of the blood are impeded. Hence we observe, besides the vertigo, headache, high temperature of the head, with occasional vomiting, real heaviness of the head, which falls forward, restless sleep, disturbed by loud speaking, nasty dreams, or different hallucinations, photophobia, reeling gait, frequent knocking of the feet against obstacles, or falling, &c.

Against this vertigo we possess in *Glonoin* 2 to 3 a capital remedy, which is able to regulate the congestive symptoms, and even the vomiting and sleeping.

Spigelia, too, renders very good service in this form of disease when children reel about as if drunk, easily fall, and frequently complain of pressing pains on the vertex, worse on stooping, walking, speaking, but better when lying. When complicated with rachitis we give *Silicea* or *Calc. carb.* 6; with coexistent hypertrophy of the lymphatic glands *Iodide of Potash* 2, or *Conium* 3.

Also in hereditary tuberculosis or in simple hereditary disposition to this disease, children and young people often suffer from vertigo which will occur spontaneously after bodily, and much more after mental, exertion, especially after too much committing to memory, or after too long

walks, and which vertigo will sometimes continue for some time. Against this condition I always administer *Kali iod.* 2, and with good results, even when cerebral hyperæmia had already begun, and meningitis tuberculosa is to be feared.

With regard to cerebral atrophy we usually only get that vertigo which is a consequence of senile marasmus to treat. This vertigo is always connected with great uncertainty in walking and standing, and the patients have the feeling as if they were drunk, or as if they were going to fall to one side or another, or as if everything turned round with them. Hence they do not trust themselves to go alone, and if they nevertheless do go alone they make very short strides, or walk with their legs far apart, and as a consequence are often dyspeptic, dull, and anxious. Against this kind of vertigo *Phosph.* 3, combined with strengthening diet and wine, will have a good result.

If this vertigo is only remarked in the morning, just after getting up, if it is combined with such uncertainty in walking that the patient will only walk when leaning on another's arm or on a stick ; if he has a sensation of swimming in the head, or as if he were drunk, and is always in fear lest he fall forwards or to the side ; if after a few trials his uncertain gait gets a little better, he feels he can maintain his equilibrium better, and the apparent movement gets better as the day advances, then *Rhus toxicodendron* 3, bis in die, is indicated.

The vertigo preceding or accompanying the anoxia paralytica is most frequently combined with mania of grandeur and demands the administration of *Verat.* 3 or *Platinum* 6.

That vertigo which is combined with rigidity of the cardiac arteries is always a congestive one. From the loss of the elasticity of the arteries, and the coexistent serpentine prolongation of the same, there is more blood carried to the brain, and consequently a cause for apoplexy is given. Against this kind of vertigo *Glonoïn* 2 or 3 is a sovereign remedy, and with which we simultaneously obviate the threatening apoplexy. Also with *Nux vom.* 3 or 6, *Calc.*

carb., *Carbo veget.*, and *Nat. mur.* (6), we are in a position to silence this vertigo when the patients live too well, and take much spirituous liquor, or when they are of sedentary habits and tax their minds too much.

Among the kinds of vertigo which are caused by external influences, whereby the cerebral nerves, and subsequently the brain itself, are affected, we need only mention those which most frequently call for medical treatment.

In early spring, in continual hot weather, during a long stay in heated rooms, when one goes out of the cold into hot rooms, after the action of vertical solar rays on the bare head, from hearing deafening music, as in some of our large opera houses, after immoderate exertion of the body, after too much study and thinking, committing to memory, &c., there frequently arises continual vertigo, accompanied by headache, heat of the head, more or less violent pulsation of the carotids, and more or less extensive flushing of the cheeks, and frequently also by epistaxis. Against this vertigo, and when the symptoms are very violent, we use *Aconit.*, or *Bellad.*, or *Apis* 3, with simultaneous cold cloths to the head, when the symptoms are less violent, especially after immoderate mental exertion, *Nux vom.*, *Calc. carb.* or *Puls.* 3, with prompt results.

In vertigo followed by epistaxis, and occurring in early spring, *Conium* 3 does good service.

That kind of vertigo arising after the use of spirituous or effervescent beverages, or of hot tea or coffee, after too heavy tobacco smoking, after opium eating, or after the use of cherry-laurel water, is most quickly got rid of with *Nux vom.* or *Veratrum* (3), or *Carb. veg.* or *Nat. mur.* (6). The vertigo caused by the immoderate exertion of the eyes from much reading, especially by artificial light, or from stitching, fine needlework, fine drawing, &c., is most promptly sublated by *Calc. carb.* or *Silic.* (6), *Nat. mur.* or *Graphit.* (6). If it has gone on to *muscæ volitantes*, or even to scotomia, we find *Phosph.* or *Agaricus*, *Bellad.* or *Ruta* (3) very useful.

Sometimes we are called to patients who have become vertiginous from the inhalation of aromatic or any other

odour. In such cases we are to cause them to be put into another room or house, so as to get them away from the exciting cause, the windows and doors are to be thrown wide open, and we at once administer *Nux vom.* 3 ; if there are simultaneously nausea and vomiting, *Phosph.* 3 ; if there is syncope, *Bellad.*, and if only a feeling of being stunned, *Hyoscyamus* 3.

Secondary vertigo demands the greatest attention of the medical man in charge of a patient, because it is often not easy to find out what disturbance of an organ, or system, or function is at the bottom of the vertigo. Hence the absolute necessity for the physician to take down the anamnetic points very accurately, as also the existing objective and subjective symptoms. Nor should careful physical examination be neglected if he wishes to attain a favorable result. This he may, however, attain even in the most difficult cases if he will only take the necessary time and trouble, both to elucidate each individual case and to search through the physiological pharmacodynamics. It is the latter which are able to give him counsel and information in the most obscure and complicated cases.

Secondary, and at the same time congestive, vertigo, as it occurs in females whose catamenia have suddenly ceased in consequence of a cold, or sudden cooling, or from fright, fear, chagrin, &c., demands either the administration of *Aconite* 3 when the morbid excitement is general ; *Belladonna* 3 when it is principally from cerebral congestion ; *Dulcamara* 3 or *Bryonia* 3 if from a chill ; *Ignatia* or *Nux vomica* (3) when the menses have suddenly ceased from psychical effects ; or *Pulsatilla* 3 if the head is hot, but the face pallid, and there is, simultaneously with the vertigo, a wandering rheumatic pain in the extremities.

In congestive vertigo, when the amenorrhœa has come on gradually, we administer, when there is great obesity, *Calcarea carb.* 6 or *Capsicum* 3 ; to females who are continually exposed to psychical effects, *Nux vom.*, *Ignatia*, or *Pulsatilla* (3) ; when there is evident abdominal congestion, *Sepia* 6 or *Conium* 3 ; when there is a simultaneous constitutional anomaly, such as a disposition to chlorosis,

Pulsatilla or *Cocculus* (3); if there be a disposition to tuberculosis, *Calc. carb.* or *Silicea* (6); or finally, should there be a syphilitic taint, *Nitr. acid* 3.

In that vertigo which generally occurs at the menostatic period, and in which there is transitory calescence and perspiration, we give *Conium* 3, *Calcarea carb.* or *Sepia* (6), with pretty prompt and favorable results. In very stubborn cases *Phosph. acid* or *Nitr. acid* 2 or 3 have rendered us good service.

If vertigo occurs after a suppressed hæmorrhoidal flow, it is always of the congestive kind. This is generally the case when the sanguineous flow, having become habitual every month, suddenly ceases to flow in consequence of a cold or of psychical effects, and then occasions congestion of the abdominal veins, by which a secondary congestion then attains the head, and causes vertigo. The same treatment which we have already mentioned for suddenly suppressed menstruation comes into play here. If we have additionally constipation to deal with, a good result may be expected from *Nux vom.*, *Bryonia* (3—6), or from *Natrum mur.* or from *Sulphur* (6).

Many practitioners, simultaneously with their treatment of the congestion, try to bring back the catamenial or hæmorrhoidal flow; according to my conviction this is trouble in vain. After dispersed congestion we shall find it effective to administer such remedies as are capable of diminishing the venous hyperæmia in the abdomen, such as *Nux vom.*, *Natrum mur.*, *Sepia*, *Calcarea carb.*, *Lycopodium*, *Sulphur*, &c., then, and then only, will the physiological or habitual hæmorrhage spontaneously reappear.

In the course of considerable losses of blood *anæmic* vertigo is the first sign of too great hæmorrhage, and the precursor of syncope. It is generally accompanied by remarkable pallor of the face, fibres moving before the eyes, or dimness of vision, and is only of short duration, because with continuing hæmorrhage the senses are lost and swooning occurs. This vertigo is, as it were, a summons for the physician to stop the hæmorrhage with the necessary

energy if he does not wish the vital force to be jeopardised. The remedies for stopping the different kinds of hæmorrhage, such as hæmoptysis, hæmatemesis, melæna, metrorrhagia, &c., will be found in the works on special therapeutics. The vertigo, however, demands treatment only for the time being, by the excitation of the peripheral nerves; the patient's face is sprinkled with cold water, he is made to inhale aromatic, ethereal, or volatile remedies, or the nose, temples, elbows, or palms of the hands are bathed with them and frictioned, and then the swooning is obviated. That kind of vertigo which is a sequela of oft-recurring or tedious hæmorrhage, or occurs in convalescence after severe and tedious illness, is likewise always accompanied by a considerable degree of debility and caducity, and demands *China* 1, with nourishing diet and rest. If the anæmia is in a high degree predominant, the first or second trituration of the preparations of *Iron* are to be preferred to the *China*. If anæmic persons undertake too long walks or journeys on foot, if they run or dance too much, or do too hard work, they are usually plagued with vertigo, which is often accompanied by loss of appetite, or of sleep, or with pains in the femoral and crural muscles, and which not infrequently goes on to syncope. In such cases *Arnica* or *Bryonia*, *Ruta* or *Rhus toxicodendr.* (3) may be administered with success.

Anæmic vertigo, which follows undue mental exertion, and that from too much reading, writing, committing to memory, &c., is generally very soon ameliorated, and even totally cured by *Nux vom.* 3, or *Calc. carb.* 6. In stubborn cases *Sepia* 6 may likewise be administered.

The most approved remedies against those vertiginous attacks of the anæmic which are a consequence of a profuse loss of the vital fluids, such as nocturnal emissions, onanism, venereal excesses, too long-continuing lactation, profuse diarrhœa, suppuration, perspirations, &c., or, in consequence of premature marasmus, of the anæmia of old age and of long-lasting insomnia, are *Phosphorus* or *Phosph. acid* (3), *Calcarea carb.* 6 and *China* 3. And these are capable of producing a positive action even when allo-

pathy has fruitlessly administered all possible preparations of *Quinine* and *Iron*.

Against the vertigo of the chlorotic *Pulsatilla* or *Sabina* (3) are often capable of rendering better service than the *Chalybeates*.

Static vertigo is due to cerebral hyperæmia from a prevention of the return of the blood. This kind of vertigo, when occurring in those suffering from bronchocele, is best silenced by means of *Spongia* or *Iodium* (2—3). In very stubborn cases one may expect good results from *Calc. jodata* 3. Lately I have obtained favorable results from *Kali bromatum* 3.

In the vertigo consequent on large tumours of the glands of the neck *Kali jodat.* 2—3 internally with a simultaneous external application of the same remedy (grana duo ad unciam aquæ dest.), as also *Calc. jodat.* 3, constitute reliable remedies. Very lately I have seen good results from *Ioduret. sulph.* 2. *Phosph.* 3 or *Silicea*, or also *Calc. carb.* (6) may be tried where the vertigo is caused by carcinomatous tumours; in these cases it sometimes happens that we succeed in reducing the expansion of the vessels and thus ameliorating the vertigo without being able to attain to any favorable action on the tumours themselves. The vertigo caused by too tightly fitting clothes soon abates when the clothes are loosened.

The static vertigo caused by diseases of the heart and its valves is amenable to homœopathic remedies. Thus we give *Glonoine* 3 or *Iod.* 3, with eminently prompt calming of the congestive phenomena, in general hypertrophy of the heart, and in hypertrophy of the left ventricle, even when there is simultaneously fatty degeneration of the heart, and the vertigo is accompanied by cephalalgia, flushing of the face, injection of the conjunctivæ, violent pulsation of the carotids, heat of the head, fibres moving before the eyes and ringing in the ears, and apoplexy is imminent. Here, too, *Aurum mur.* 3—6, *Phosph.* 3, or *Calc. carb.* 6 have often given great help.

In hypertrophy and dilatation of the right ventricle vertigo often occurs on quick movement, going up stairs or

going up hill ; if there is at the same time fatty degeneration of the heart, stenocardiac symptoms become added to the vertigo and show themselves at the very beginning of motion ; if the patient is simultaneously affected with emphysema the vertigo is generally accompanied by bronchial catarrh, dyspnœa, and more or less evident cyanosis. In all these cases, *Phosphorus*, *Bryonia*, at times also *Rhus* (3), and *Arsenicum*, or *Veratrum*, have an excellent action. *Kali carb.* 6 or *Sambucus* 1 are especially indicated in fatty degeneration of the heart.

In insufficiency of the aortic and of the mitral valves there is usually vertigo with evident congestions towards the head or breast which cause us to fear apoplexy. These phenomena demand the same treatment which we have already indicated in hypertrophy of the left ventricle.

The vertigo of pregnancy is mostly occasioned by the pressure of the uterus on the abdominal vessels, as it increases in size and occupies the upper part of the abdomen. If this vertigo is accompanied by evident cephalic congestion the treatment indicated for congestive vertigo will be used. If the static symptoms are more prominent—pallid, bluish, puffy face, blue lips and nails, undulation of the veins of the neck, &c.—then the most approved remedies are :—*Phosphorus*, or *Arsenicum*, or *Tart. emet.*, or *Ipec.*, or *Veratrum* (3).

The vertigo consequent on the distension of the abdomen by the gases that are collected in it and pent up demands the same differentiation in regard to its being more congestive or more venous. In the former case *Chamomilla*, *Ignatia*, *Nux vom.*, *Cocculus*, *Natrum mur.*, and *Phosph.* (3), have often proved successful. In the latter case *Tart. emet.*, *Carbo veg.*, *Veratrum*, and *Lycopodium* 6, are the remedies which seldom leave the physician in the lurch.

Vertigo from constipation occurs only when accumulation of gas in the intestinal canal is coexistent by which the diaphragm is pushed upwards, the lungs compressed, and stasis in the circulation of the blood brought about.

In such cases we must not only consider of what kind the congestion is—whether arterial or venous—but also the peristaltic motion, with regard to its being increased or diminished. If the peristaltic motion is increased we shall hear the borborygmi and there will be coexistent pains of different kinds in the abdomen, which again diminish after eructations or expulsion of flatus. If there is a diminution of the peristaltic motion there will be no borborygmi, the accumulated gas will cause a sensation of pressure and tension, of stitches or burning in the different intestinal regions. Consentaneously very few ructus or flatus are expelled, or, if so, it only happens with the aid of the abdominal muscles.

Against vertigo with coexistent lively peristaltic motion we possess, in *Bryonia* or *Cocculus* 3, *Calc. carb.*, or *Magnesia mural.* (6), remedies which are capable of doing away, not only with the vertigo, but also with the flatulent distension and constipation.

The arterial vertigo with coexistent diminution of the peristaltic motion demands the administration of *Nux vom.* 3, *Natrum mural.* 6, *Hepar sulph.* 3—6, or *Lycopodium* 6. If hardening of the fæces coexists to such an extent that they can only be expelled as scybala or with great difficulty then *Opium*, *Alumen*, or *Plumb. met.* (6), are indicated.

Venous vertigo with coexistent increase of the peristaltic motion demands the administration of *Carb. veg.* 6, *Sulph.*, *Lachesis* or *Sepia* (6); if the peristaltic motion is diminished *Silicea* 6 is useful, and in stubborn cases *Graphit.* 6 is the remedy.

Nervous vertigo is not seldom a very difficult thing to treat, because the objective phenomena either are altogether wanting or are only very sparingly represented, or they are insufficient for a choice of remedies, and because even the subjective symptoms, to which we are properly referred, are very short of possessing the requisite value and reliability. In such cases we must carefully seek some *points d'appui* for a successful choice of remedies, and consider everything that is capable of exercising any influ-

ence, mediate or immediate, on the vertigo. For this purpose the following considerations may be regarded as possessing considerable *raison d'être*, viz. the positive or supposed cause and the kind of vertigo, its violence, duration, reflex action on other organs, the circumstances under which the vertigo gets better or worse, the time at which the attacks commence, and the collateral circumstances which accompany or follow the vertigo. Not less important for a correct choice of remedies are the condition of mind, degree of irritability of the patient, the condition of nutrition and the state of the blood.

Nervous vertigo must, indeed, be most accurately individualised ; the more accurately a remedy corresponds to these *points d'appui* and the more it comprehends all the given considerations that have a sufficient *raison d'être* the more certain and prompt will the curative result be. General remedies, that are supposed to cure nervous vertigo just as it comes at so much a piece, are not possessed by homœopathy. Every individual case must be fundamentally elucidated in the manner just indicated, and the choice of remedies must be made on the basis of the totality of the parts which together constitute the disease.

The vertigo of very susceptible and of very irritable persons, as also that of the hysterical, is very often connected with the greatest variation of temper, viz. with the most rapid transition from weeping to laughing, from mirth to sadness, from boisterous fun to melancholy, most frequently with a considerable degree of nerve erethism, but especially with hyperæsthesia of one or more organs.

Time and space will not allow us to enter into the details of this Proteus-like process. We must therefore confine ourselves to generalities and leave specialisations to further investigations in physiological pharmacodynamics, which are absolutely necessary in each individual case.

In hysterical vertigo, with general nerve erethism, we may expect good results from *Belladonna*, *Atropia* 3, *Calc. carb.* 6, *Agaric.*, *Coffea*, *Nux vom.*, *Ignatia*, *China*, and *Iodium* 3. Very lately the successful use of *Cyclamen* 3 has been confirmed.

That vertigo which sometimes ends with an epileptiform attack demands the administration of *Belladonna*, *Atropia*, *Ignatia*, or *Nux vom.* 3. This last remedy is indicated when there is a suspicion of onanism or excessive sexual excitement. *Calc. carb.* 6 is indicated in excessive mental exertion.

Hysterical vertigo consequent on ophthalmic hyperæsthesia is soon relieved by *Calc. carb.* 6, *Bell.* 3, or *Graphit.* 6; when consequent on olfactory hyperæsthesia, *Agaric.*, *Hepar sulph.*, *Calc.*, or *Phosph.* 3; when, in consequence of acoustic hyperæsthesia from sharp screeching sounds or very discordant music, we sometimes find *Veratrum* or *Arsenicum* do good service; when, again, it is from hyperæsthesia of the cutaneous nerves, particularly of those along the spine, *Ergot* 3 has been used with success; and finally, when from hyperæsthesia of the cutaneous nerves of the extremities *Cyclamen* 3 is indicated.

In vertigo consequent on fright, which may likewise be followed by epileptiform fits, *Aconite* or *Opium* 3 is curative.

Vertigo in consequence of anxiety and fear is cured by *Ignatia* or *Puls.* 3.

The vertigo of the hypochondriacal is likewise generally nervous, and must be treated according to the same principles as that of the hysterical.

Nevertheless, it will be necessary to pay particular regard to the different causes and to the accompanying phenomena, because we are thus put in a position to make a right choice of remedies.

The hypochondriac has either lived in debauch, or has often been the subject of gonorrhœa or syphilis, or is suffering from a chronic or incurable disease, or he is disquieted by a 'high degree of ambition which has not been satisfied as he had hoped, or he has wished for much and attained but little, or speculated a good deal with little success, and so forth.

His mental condition, even under favorable external circumstances, is under continual depression, and, nevertheless, the nerves are very susceptible, in a high degree

irritable, frequently hyperæsthetic. Hence it is that he is often dyspeptic and sleepless, and an ever-existing care for himself or for his relatives worries and troubles him.

The vertigo of the hypochondriac is always based on erethism of the brain or of its nerves, which mostly exercises a reflex action on the stomach or on the intestinal canal, whereby frequent nausea, or emesis, or anorexia, or irregularities in the alvine evacuations, or flatulent distension of the abdomen supervene.

In the hysterical the same observation has been made ; hence the therapeutics of these two kinds of disease do not essentially differ from one another.

The vertigo of the hypochondriacal which has been caused by sexual excess is readily reached by *Phosph.*, *Acid. phosph.*, *Nux vom.* 3, *Calc. carb.* 6, *Sepia*, and *Silicea* 6.

In over-long continuing, depressing, psychical effects we may expect prompt amelioration from *Ignatia* 3, *Natrum mur.* 6, *Hyoscyamus* 3, or *Staphisagria* 3, and now and again from *Colocynth.* 3.

If the vertigo is accompanied by dyspepsia *Nux vom.* 3, *Natrum mur.* 6, *Sepia* 6, and *Cyclamen* 3, are to be administered. If there is coexistent flatulent distension of the abdomen or retardation of the alvine evacuation, those remedies which we have already recommended against static vertigo under similar circumstances will have to be employed.

If it is accompanied by insomnia we administer discriminately *Calc. carb.* 6, *Ignatia* 3, *Sepia* 6, *Pulsatilla* 3, *Coffea* 3, *Silicea* 6, and *Arsen.* 3 or 6.

We have thus only given some hints with regard to the manner in which physiological pharmacodynamics is to be made use of in the different cases of nervous vertigo. As we have already mentioned, we must in every more difficult case seek counsel in the homœopathic *Materia Medica*, which in the most difficult cases helps us to a proper choice of remedies if it is used with a definite object in view.

As a guide through this maze I will communicate a schema that I have used for many years, and which has

aided me in very difficult cases in finding out the right remedy. It comprises the time at which nervous vertigo generally occurs, the circumstances under which it gets better or worse, the kinds of vertigo, and the phenomena which generally accompany it.

That remedy which corresponds to the greatest number of symptoms in each individual case is the one to be chosen, and is approximatively the right one.

- Vertigo in the morning: *Cal.*, *Nux*, *Rhus*, *Phosph.*, *Nat. mur.*
- „ in the evening: *Bell.*, *Puls.*, *Cyclamen*, *Sepia*, *Zinc.*, *Laches.*
- „ on lying down: *Puls.*, *Cylam.*, *Arsen.*, *Aurum.*
- „ on getting up: *Nux*, *Rhus*, *Cocculus*, *Laches.*, *Conium.*
- „ when walking: *Puls.*, *Lycopod.*, *Conium*, *Capsic.*, *Phosph.*
- „ when stooping: *Calcarea*, *Bryonia*, *Sepia*, *Spigelia.*
- „ with empty stomach: *Phosph.*, *Iod.*, *Calc.*, *Chin.*
- „ after meals: *Calc.*, *Nux vom.*, *Natrum mur.*, *Phosph.*, *Sepia*, *Lycopod.*
- „ after sleep: *Phosph.*, *Sepia*, *Nux vom.*
- „ out of doors: *Nux vom.*, *Silicea*, *Coccul.*, *Nux moschat.*
- „ in doors: *Silicea*, *Agaric.*, *Arsen.*, *Pulsatilla.*
- „ before menstruation: *Calc.*, *Puls.*, *Sepia*, *Veratrum.*
- „ during menstruation: *Phosph.*, *Hyoscyam.*, *Graph.*, *Lycopod.*
- „ after menstruation: *Nux vom.*, *Phosph.*, *Graph.*
- „ better by going about: *Rhus*, *Puls.*, *Capsic.*, *Cyclam.*, *Lycopod.*
- „ better at rest: *Nux vom.*, *Nat. mur.*, *Bell.*, *Colchic.*
- „ everything is going round in a circle: *Phosph.*, *Nux vom.*, *Bry.*, *Arnica.*

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- Vertigo, as if stunned : *Calc., Silicea, Bellad., Hyoscyam.*
 „ as if drunk (reeling) : *Acon., Rhus, Nux vom., Platina.*
 „ with shaking and trembling : *Phosph., Calc., Ignat., Arsen.*
 „ with swooning : *Phosph., Nux vom., Natr. mur., Arsen., China.*
 „ with vomiting : *Nux vom., Ipecac., Veratrum, Ars., Puls.*
 „ with an inclination to fall forwards : *Phosph. acid, Graph., Cicuta viros., Spigelia.*
 „ with an inclination to fall backwards : *Rhus, Nux vom., Bry., Chin.*
 „ with an inclination to fall to one side : *Silicea, Sulph., Ipecac.*

If we cannot succeed with these remedies, we send such patients at the right time of the year to Gastein, to Johannisbad (Bohemia), to Tüffers or Römerbad (Styria), to Pfäfers (Switzerland), or to the sea-side. When there is an excessive excitability and irritability of the skin, a sea-watering place in the south is preferable to one in the north.

The toxic vertigo which is caused by the action of medicinal substances is to be treated partly by general and partly by special remedies. To the former we reckon—concentrated black coffee, effervescent powders, soda water, milk, whey, lime water, &c. To the latter—remedies which antidote the action of such substances, and are capable of neutralising it, and about which physiological pharmacodynamics are in each case the best advice-giver.

The vertigo consequent on the inhalation of coal gas or of petroleum demands the same treatment as that from the inhalation of the pungent odour of plants, and which we have already mentioned.

The vertigo resulting from anger, which degenerates into rage, is often of the toxic kind, because this psychical affection shows itself under phenomena which have a great similarity to acute poisoning.

In pyrosis and vomiting, *Arsen.*, *Nux vom.*, *Bryonia*, or *Phosph.* (3), do us good service; and with coexistent diarrhoea, *Arsen.*, *Veratrum*, and *Lachesis* also.

In exceedingly violent fright, as from great danger to life, prompt amelioration may be expected from *Aconit.*, *Bellad.*, *Ignat.*, or *Puls.* (3).

The vertigo consequent on the action of malaria, as for instance after inundations, and in marshy districts, occurs sometimes endemically or epidemically, and is generally accompanied by emesis and anorexia, and demands the administration of *Nux vom.*, *Phosph.*, *Bellad.*, *Ipec.*, *Arsen.*, *Veratrum* (3).

That kind of vertigo which is caused by house malaria—the patient has lived too long in a damp and badly, or not at all, ventilated dwelling, where mildew fungi or the so-called wood-sponge are formed and the air is close, or where there are badly made waterclosets, whose stench penetrates into the rooms or workshops, or where (as is sometimes the case with butchers, curers, tanners, &c.) cesspools, drains, canals exist, in which animal offal is thrown only to get rotten, and then to rise into the air as a pestiferous agent—usually comes on with the above-mentioned symptoms, and demands the same choice of remedies. Sometimes, however, this kind of vertigo becomes intermittent, and in this case we may make use of *Nux vom.*, *Ipec.*, or *Arsen.*, and, if necessary, also of *Chinin.* 1.

Collaterally the dwellings must be properly ventilated, and the privies, drains, canals, &c., carefully disinfected.

With us* the popular remedy against every kind of vertigo is the fruit of *Aesculus hippocastanum*, which is cut into several pieces, and carried in the pockets in order that the dizziness may—not go away.

* In Prague.

INCARCERATIO HERNIÆ*—PRACTICAL EXPERIENCE OF ITS HOMŒOPATHIC TREATMENT.

By Dr. BAUMANN.†

LATE one evening the wife of the master weaver B—came from Buxheim, to me, and reported that her husband had been suffering for two days from violent pains in the abdomen, constipation, and vomiting of all the food of which he had partaken. My question as to whether there was any rupture was answered negatively. I prescribed *Nux vom.* 5, and requested her to send me word next morning in case her husband should be no better. The next day brought me the worst of news, so I drove over to the patient in the afternoon. He was quite positive that he was not suffering from any hernia, but on examination I found a strangulated femoral hernia on his left side, about the size of a child's fist. I employed the taxis without success. Ordered *Belladonna* 5 and *Nux vom.* 5 alternately every two hours, and warm poultices externally to the part.

On calling next day I found the well-known symptoms greatly aggravated; there was almost uninterrupted stercoraceous vomiting. Without even the slightest hope of success I again gently employed the taxis, when, lo! and behold! I heard that gurgling noise which to the surgeon's ear sounds like music—the hernia was reduced.

After again making a critical examination of the part, I drove away glad in my victory. But next day brought the report that the good prophecy which I in the joy of my heart had uttered had not been realised; no stool, no remission of the abdominal pains and vomiting. In the afternoon I found the bad news corroborated, and the patient was extremely exhausted. While I was again inspecting the place of the rupture, and was wondering what

* Under this term the author understands both strangulated and incarcerated herniæ.—*The Translator.*

† From the *Allgemeine Homöopathische Zeitung*, Bd. 85, No. 2, s. 11.

could possibly account for the fruitlessness of the apparently successful reduction, a thought shot through my head, and in the next moment I threw off the bed-clothes and examined the right inguinal region. And really here was a neat little femoral hernia about as big as a plum and most firmly strangulated. In about a quarter of an hour I succeeded in reducing it by the taxis.

Moral.—Many a human life is lost by the onesidedness of the medical man.

But what if I had been unable to reduce it, and an operation were not feasible? Why, I should have shot off my last arrow by administering the remedy of which I shall presently give a report.

Dr. Mailänder, sanitary councillor, says in his extremely interestingly written *Chirurgical Experiences*, (a) "Since I have been a homœopathic practitioner not a single case of strangulated inguinal hernia has come within my experience, in which spontaneous reduction was not effected within at most four hours when *Bell.* 2, 3, and *Nux vom.* 3, 6, had been administered alternately every four hours." And further on, (β) "The almost specific success of the internal treatment has confirmed the conviction in my own mind that a strangulated hernia which cannot be reduced within at most eight hours by medication in most cases cannot be liberated otherwise than by an operation with the knife."

My experience does not agree with his. With regard to the former (sub. a), I have rarely been so fortunate as to see such a *succès éclatant* within four hours from the administration of *Belladonna* and *Nux vom.*; success has been delayed for two or three days and even longer.

With regard to the latter (sub. β), I have gained the conviction *that even after several days of fruitless administration of these remedies, the operation by incision may very frequently be avoided by giving Plumbum met.*, provided always that the acute character of the case will at all allow of a purely medicinal treatment.

Without doubt *Bell.* and *Nux vom.*, either singly or in alternation, especially in the low potencies, render most remarkable service. Now and again, however, they do not

answer our expectations. What next? The surgeon pure takes his knife and operates. But we general practitioners, who in operative surgery are generally only holiday sportsmen, make up our minds to an operation only when the stock of medicines at our command is exhausted, or when the danger to life is increasingly imminent. Every stillstand, every trace of amelioration in the course of the illness, determines us to withdraw from the surgical case. It is not even necessary that our hand should be out of practice in the use of the knife; our own or others' former and favorable experience gives us courage to wait and strengthens our trust in the treatment of incarcerated hernia by internal medication. The remedy that I have learned to esteem most is *Plumbum met.* Even in desperate cases, when other physicians only saw help in a prompt incisive operation, I have obtained the most happy and astonishing results.

For the better illustration of my statements, I will only report the last two cases that have occurred in my practice this year.

Mrs. R—, of Berlin, has been suffering for many years from a pretty large femoral hernia of the left side. A year and a half ago it became strangulated, and I only succeeded in its reduction with great difficulty after having used *Belladonna* and *Nux vom.* for fifty-four hours. Last spring this hernia again became strangulated. The woman thought she could manage its reduction herself and for two days did not send for me, and then vomiting had already set in. I employed the taxis to no purpose.

Prescribed *Belladonna* 5, and, on account of the painful susceptibility of the hernia, the following ointment, viz. *Extracti Belladonnæ* gr. ij, *Azung. Porc.* ʒss, and, besides, warm cataplasms. Next day no amelioration. Taxis again unsuccessful. Now I prescribed *Nux. vom.* 5 in hourly alternation with the *Belladonna*. On the third day all the morbid phenomena getting worse and worse; continual vomiting of feculent matter. The lady and her husband had from the very commencement declined any operative interference. Patient awaits her death in pious

resignation. I ordered *Plumb. met.* 5 gtt. viij in Aq. ʒviij ; a small table-spoonful every three hours.

On the second day some traces of amelioration ; vomiting less frequent. Hernial pains intermittent and less unbearable. During the past night she dosed a little. Patient thought there was *Opium* in her medicine. No change in the hernia. Rep. *Plumbum*.

On the fifth day decidedly better ; vomiting has ceased and is superseded by belching. Abdomen is still distended, but the pain is very bearable. Patient desires food ; broth, milk, and eggs, are partaken of and well borne. Towards morning expulsion of flatus. Hernia less hard, but otherwise unaltered.

On the sixth day the same favorable symptoms. Sleep for several hours. Pains in the stomach and abdomen slight ; employed gentle taxis without success.

On the seventh day, i.e. the ninth of strangulation, news was brought to me in the early morning that the hernia had disappeared spontaneously. Shortly thereafter exceedingly copious alvine evacuations.

The second case was that of a farmer in Eisenburg. When I was summoned the existing right-sided scrotal hernia had been strangulated for three days, and had been treated by a surgeon. Tried to reduce by the taxis in the ordinary way, and also on the inclined plane, but without success. (I construct an inclined plane by unhinging the door of the room, and then elevate that end of the door towards which the patient's feet lie. I cover it with a sheet before laying the patient on it). I prescribed *Nux. vom.* 5 and *Bell.* 5 in hourly alternation, and also warm cataplasms. On the two following days the report is as bad as possible.

On the fourth day I drove over to see the patient. There were vomiting and severe pains in the abdomen. The *Plumb. met.* 5, as in the former case.

The reports on the fifth and sixth days were somewhat less unfavorable. After my visit the patient received the extreme unction. The abdominal pains and vomiting were

said to have abated after two doses of the medicine had been taken.

On the seventh day I found great amelioration. No vomiting, but frequent belching. Abdomen distended, but less hard. Patient desires fluid food. Hernia diminished in size and become a little elastic, but otherwise the same. R. *Plumbum met.* 5, 6 hor.

On the eighth day a slight stool and expulsion of flatus.

On the ninth day likewise. Patient feels himself pretty well, and has appetite, but the hernia will not recede, although he has tried hard to replace it.

On examining the hernia on the tenth day I felt a little hard round lump in front of the external ring, consisting probably of rolled-up omentum. After a short time I succeeded in getting rid of this hindrance, whereupon the hernia slipped in without any further aid on my part. This was on the thirteenth day after its strangulation.

Now, can the homœopathic practitioner be accused of carelessness if, on the strength of experience such as this, he, even in the most severe form of strangulated hernia, does not hurry to the knife? The remedies which I for many years past exclusively use are *Aconitum*, *Nux vom.*, *Belladonna* and *Plumb. met.* The indications for *Aconite* I hardly need enumerate; nor yet those for *Bell.* and *Nux vom.* The latter two I, however, much prefer using in alternation and in low dilutions. I shall probably get a rap on the knuckles from Prague for alternating my medicines; but, mon Dieu! we can accustom ourselves to anything, even to being lectured, particularly when one is a novice with twenty years of homœopathic practice. Perhaps my low potencies will help me out of disgrace. As to "pure" experience, we are not limited to strangulated herniæ for that, and again these cases are generally very clearly and legibly inscribed "*Immediate.*" And as I in some cases more quickly succeed with my alternating treatment the joyful words of gratitude from the healed patients clear my conscience of all blots with which "impure" experience had defiled it.

I cannot give a satisfactory indication for *Plumbum*. This remedy was always my last trump. *If there be no remission of the excruciating symptoms within from twelve to twenty-four hours after its administration, I am convinced that there are hindrances in the way which cannot be got rid of dynamically, and then the surgeon's art of blood and iron enters upon its undisputed right.*

Editorial remark in the *Allg. Hom. Zeitung*:—"It would be very desirable for practitioners to try this remedy in any cases of invagination or intussusception which may come before them, and publish their results."

THE INFLUENCE OF PHOSPHORUS ON THE ORGANISM: AN EXPERIMENTAL STUDY.

By Dr. GEORGE WEGNER.*

THE interest which the medical profession at present attaches to *Phosphorus* relates essentially to its action as a poison. While on the one hand we observe in the suicidal acts of men that violent hanging and cutting are still predominant, it may on the other hand be remarked that with women poisoning with phosphorus enters the arena as successful competitor of the formerly favourite mode of self-destruction by drowning. Sitting in the sombre melancholy kitchen with the phosphorus matches so close at hand, how much more easy is it to take a sip from the familiar teacup than to seek out the cold stream for the fatal leap. The almost absolutely certain deadly action of the poison, the facility with which it may be procured, its hidden, silent, and (generally supposed) painless mode of action, the fact that it does not deface, thus preserving the femi-

* Published in *Virchow's Archiv*, Bd. lv, and read by the author, Dr. Wegner, before the Berlin Medical Society in November, 1871. Dr. Wegner is assistant in the Pathological Institute of Berlin. (Translated by Dr. J. C. BURNETT.)

nine sense of the beautiful, are circumstances which have made phosphorus the momentary fashionable poison with the ladies, more especially with those who are unhappy in their love. Hence, in modern times the numerous cases of poisoning with phosphorus, which are so interesting both in the forensic and in the clinico-anatomical analysis, and of which a sentimental Bavarian pathological anatomist says, "After a year's stay in the Berlin medical lecture rooms I cannot but say that these cases are terribly on the increase."

Both the symptomatology and also the processes of the deleterious action of phosphorus have been defined through the great activity of a large number of meritorious investigators, who have proved that by it sooner or later a fatty degeneration of the liver, kidneys, stomach, and heart, of the voluntary somatic muscles, of the non-striated fibres of the muscular tissue of the intestines, and even of the parenchyma of the lungs, is brought about, and that numerous sanguineous extravasations are found in the whole body.

Although I have examined a considerable number of cases of acute poisoning with phosphorus, I can yet add relatively but very little new matter to what is already known; but there is one point to which I should like to give a prominent place. It is not only the central organ of the circulatory apparatus that is involved in the fatty degeneration, but also the peripheral parts of the arterial system even as far as the minute microscopic vessels. This fatty degeneration of the parietes of the vessels can be observed in all the organs, but most easily in the brain, in cartilage, in the marrow of the bones, and in the liver. This process is, perhaps, hardly observable under ordinary circumstances, as the disease-picture is principally occupied by the severe changes in the greater organs; the principal symptoms of it are the sanguineous extravasations in the different parts of the body, and these may, indeed, be of but insignificant importance compared with the more grave lesions. Only in one case do these consequences become clinically and pathologically visible, viz. when in a female person the poisoning occurs just before the menstrual

period, the physiological hyperæmia of the sexual organs attains the parietes of the vessels, which are lowered in their power of resistance by the fatty metamorphosis, and the hæmorrhages become more severe, often so severe that general anæmia is a consequence.

The blood coming from the uterine walls is poured out. We find at the autopsy only a somewhat more positive hæmorrhagic condition of the lining mucous membrane; it is, however, different in the ovaries, where the unusually great sanguineous discharge does not at once find an exit, but remains within the organs. Here real blood tumours are found, and as probably the hæmorrhage does not occur all at once, but gradually, these at first remain within the ovary, gradually enlarging its circumference; not until later can they be voided either into the peritoneal cavity or, when adhesions had been formed, into the rectum. The process attains its maximum when highly vascularised connective tissue has been formed in the surroundings of the uterus, and of its adhesions in consequence of a pre-existing perimetritis; then the hæmorrhage is not only into the ovary, but also from the numerous thin-walled, and now fattily degenerated, vessels of the new connective tissue. At the commencement of the year 1870 I had an opportunity of bringing before the Berlin Obstetrical Society four cases of poisoning with phosphorus, and of demonstrating preparations showing that hæmatoceles had been found of a size varying from that of a cherry to that of a man's fist; in two of these cases they lay within the ovaries, in one there was a breaking up towards the pelvic cavity, and in the fourth perforation into the rectum had followed.*

While our knowledge of the changes brought about by acute poisoning with phosphorus in the different organs is pretty complete—indeed, so exhaustive that, in all probability, the immediate future will hardly be able to bring much new matter to the light of day—we know relatively

* I have not remarked either in man or animal any change in the soft tissue of the bones or of the cartilages, except the degeneration of the vessels after acute poisoning.

but little what influence this substance, which is so dangerous in certain doses, may develop when given for a considerable time, for weeks or months, in smaller and not directly deadly quantities.

In the first decades of this century phosphorus was used as a therapeutical agent, of which a very considerable specific action on the nervous system was expected, and it was given in practice to a considerable extent, and, as it would seem, in no small doses; but its use was, of course, not carried far enough for a careful anatomical examination to observe changes produced by it. However, it was clinically pretty well demonstrated that gastro-enteritis resulted from its long-continued use.

A more extensive field for clinical and for anatomical observations seemed to be opened when, in consequence of the erection of buildings for the manufacture of matches from phosphorus, a large number of persons came, by virtue of their occupation, *nolens volens*, to take up the fumes of phosphorus for years during a great part of the day, both in the air they breathed and in their food. The sequelæ were sooner or later of two kinds. Either there was gastricism with coexistent bronchitis, with or without a consequent more severe lesion of the lungs, as emphysema or tuberculosis, or the notorious necrosis of the lower jaw resulted.* With regard to the etiological connection, especially that between pulmonary phthisis and poisoning with phosphorus, opinion has lately become a little more reserved, since attention has very rightly been called to the fact that, with the usually poor diet of factory people generally, pulmonary phthisis is one of the most common diseases, even amongst labourers who have never had anything to do with phosphorus; on the other hand, observation has taught that a great number of workpeople may be exposed to the fumes of phosphorus for a long time without their having in the least to suffer from any affection of the lungs. Nevertheless, experience leads us to believe that, when there is a predisposition to gastric and bronchial catarrhs, and at times also to secondary pulmonary affec-

* For the literature of this subject see the work by v. Bibra and Geist.

tions, the fumes may call them into action. Contrariwise, we may look upon the connection between periostitis of the lower jaw and the fumes of phosphorus as clinically conclusively proved; this maxillary affection did not exist prior to the introduction of the factories for making matches from phosphorus, and it is found exclusively in such; with the introduction of proper sanitary regulations, which have reduced the quantity of the inhaled fumes of phosphorus to a minimum by means of better ventilation of the workshops, shorter hours, &c., the affection has ever been becoming more and more seldom.

It was especially this interesting maxillary affection which, in its time, so attracted the attention of the surgeons, that caused von Bibra to occupy himself experimentally with the question. For a considerable time he fed rabbits with phosphorus, and many other rabbits were confined in hutches constructed for the purpose, and then for months exposed to the fumes of phosphorus. These experiments are reported *in extenso* in the monograph by v. Bibra and Geist, 'The Diseases of the Workers in Phosphorus Match Factories.' Their results were but little satisfactory; excepting accidental complications there was nothing essential to be seen in the internal organs, and a general influence on the osseous system was not observable. As to the maxillary affection the result was, notwithstanding that every conceivable trouble was taken, completely negative, unless we are as daring as v. Bibra, who considers the callus which he found in the animals that had been exposed to the fumes of phosphorus, and in which artificial fractures had been produced, analogous to the typical spontaneously occurring phosphorus-periostitis.

Our knowledge of the chronic action of phosphorus on the organism would, perhaps, have remained for some time in this unsatisfactory condition had not a case occurred in January, 1871, in the out-patient department of the Charité, whose unusual course roused the idea that there might be a causal connexion between the malignant affections here existing, not only in the jaw, but also in other bones, and the influence of the fumes of phosphorus.

A worker in pasteboard, by name Emil Reuter, set. 18, admitted on Jan. 13th, 1871, had his right lower extremity smashed by the wheel of a waggon.

Patient has but just commenced his present occupation of making articles out of pasteboard, and was until then working in a phosphorus match factory, which occupation he had followed ever since he was four years of age. He had never felt any evil consequences from it, nor had any symptoms shown themselves on his person. The examination of the jaw and of the internal organs showed nothing abnormal. On the upper third of the right lower extremity (below the knee) are two moderately extensive wounds not extending down to the bone. After the necrotic parts had been thrown off and granulation was commencing they were attacked by nosocomial gangrene; after this had been subdued by strong caustic remedies extensive gangrenous periostitis of the tibia, with severe febrile disturbance, supervened; the periosteum peeled off from a large area upwards as far as the knee-joint; the bone was rough. It being impossible to expect this to heal, and as the enormous suppuration, the high fever, and the continual sleeplessness were threatening to completely exhaust the patient, amputation of the femur above the condyles was performed on the 4th of February.

During the operation it was observed that the periosteum, although of normal thickness and apparently of intact structure, adhered, but very loosely, to the bone, and could be turned back as far as the condyles with the greatest facility. We were obliged to take away the sutures a few days after the operation on account of the great pressure of the shaft of the bone against the soft parts; as soon as this was done the periosteum of the whole circumference of the shaft peeled off right up to the trochanter minor and fell back with the soft parts in the form of a flabby funnel-shaped sac, so that the superficially necrosed shaft, to the length of half a foot, stood out free. With continual high fever, irregular rigors, and increasing collapse, death followed on the sixth day after the operation.

I performed the autopsy on the 13th February, and found gangrenous periostitis of the femur, which had been

amputated in the lower third, commencing cortical and central necrosis of the bone to the extent of almost the whole shaft; osteomyelitis; ichorous femoral thrombophlebitis; metastatic and partially gangrenous infarctions of the lungs and of the muscles of the right upper extremity; phlebitis in the same extremity; purulent exudation into the right shoulder-joint; tumefaction of the spleen; parenchymatous nephritis and similar hepatitis. After maceration we subsequently found slight general hyperostosis of the skull; slight ossifying periostitis of the alveolar margin of both maxillæ, the teeth being intact; comparatively extensive osteoporotic strata of deposits on the epiphyses and apophyses of the bones of the extremities.

The rapid malignant course of this remarkable case offered some extraordinary points; the intensity of the trauma was so very disproportionate to the malignity of the subsequently developed processes. When once the fact that the patient had been many years exposed to the influence of the fumes of phosphorus was made out, the physician in charge suspected it was something akin to the malignant necrosis of the jaw from phosphorus.

Notwithstanding that nothing was known of the constitutional influence of phosphorus on the general osseous system, yet if one was desirous of finding an explanation of the unusual course of the case, one could hardly avoid the idea that perhaps the chronic action of the fumes of phosphorus on the jaw might not be limited to this, but have a like influence on the long bones, on the soft parts, on the periosteum, on the medullary tissue, &c., and that it might be a source of irritability and greater vulnerability. It is easily imagined that under certain circumstances a relatively insignificant hurt, a moderate trauma, may have extensive malignant consequences. The supposition seemed all the more plausible as Dr. Pflugmacher observed during the amputation that the otherwise normal-looking periosteum of the femur was unusually easily peeled off from the bone, and, again, the post-mortem examination had demonstrated certain changes in the whole osseous system.

We conjointly undertook to try by experiment whether a

deleterious influence on the osseous system was exercised by the chronic action of phosphorus. For weeks and sometimes for months we fed rabbits with phosphorus and then examined as to whether a malignant periostitis would occur either after spontaneous traumata or after those produced at will, or again after artificially complicated fractures.

The result of these experiments did not seem to give any support to this hypothesis; in no case did we see anything of the kind. At this period Dr. Pflugmacher was unfortunately compelled by other business to relinquish his participation in the experiments, and I was obliged to go on with them by myself. In the further course of the experiments the proposed object, to demonstrate that the action of phosphorus sets up a vulnerability of the whole osseous system, could not be attained; nevertheless, a series of facts have resulted therefrom which on the one hand increase our knowledge of the processes excited by the chronic action of phosphorus on the organism, and on the other hand are not without interest in many respects, indeed are not without importance as regards principles.

The anatomically demonstrable action of the substance when given in relatively small doses incapable of killing either sooner or later, extends principally to two major systems of the body: first, the digestive apparatus, especially stomach and liver; and, secondly, the osseous system.

Action on stomach and liver.

Let rabbits, cats, or dogs be brought under the influence of phosphorus in minimum doses, either by artificially produced fumes or added to pills and brought directly into the oesophagus, and we observe that it exercises hardly any influence; the animals eat as formerly, are well nourished, seem to be quite well, and an examination of the stomach and liver discovers nothing abnormal.* If the dose is gradually increased so that no acute or subacute poisoning

* Such minimum quantities suffice, however, as we shall presently see, to produce very palpable changes in the osseous system.

arises,* very remarkable changes take place. At first in the stomach—the mucous membrane becomes hyperæmic; it swells; hæmorrhages occur here and there; real hæmorrhagic infarctions are found later on, especially on the summit of the natural folds, flat pit-like ulcers are formed whose dirty-brown margin and floor show their origin. After the irritation has been going on for months the mucous membrane becomes two or three times thicker than it normally was; it becomes indurated and of a diffuse smoke-gray or brown coloration that is most evident at the fundus. Here the microscope shows whole masses of pigment in the form of black-brown granules imbedded in the tissue, the glands are prolonged and the interstitial connective tissue, which in the healthy condition is scarcely demonstrable, becomes developed into thick broad threads.

Alterations in the structure of the liver go hand in hand with these. While in acute poisoning it is the hepatic cells that are principally affected, in chronic poisoning it is the interstitial tissue. The whole organ is swelled and feels harder, and within it and in the connective tissue around the portal vessels there is an intense cellular hyperplasia, and further tough fibrous connective tissue is developed from the young cells, constituting a more or less broad stratum at the periphery of the acini.

The peripheral zone of the hepatic cells undergoes fatty degeneration, and in the greater part of the acinus the cells have an icteric colour evidently in consequence of the pressure exercised by the new prolifically developed tissue on the efferent gall-vessels which course with the portal ramifications.

In fact we have interstitial hepatitis in optimâ formâ,† the result of which is, just as is the case after administration of relatively large doses of phosphorus for months together, essentially always identical, viz. atrophy of a three-

* This gradual increase of the dose can be carried to a great height, at which doses may be given with impunity which otherwise would soon cause death.

† In protracted acute cases of poisoning the beginnings of this process have already been observed by Dr. Wyss. *Vide Archiv.*

fold kind: either a smooth induration of the organ; or a form of atrophy which sometimes occurs in the human subject in consequence of lues, a *hepar lobatum* with numerous deep strips of cicatricial tissue dipping down into the organ, and deforming it; or, finally, the typical granular atrophy, the classical cirrhosis of the liver. In all these forms chronic icterus is present. If it results in the last-mentioned form of atrophy of the liver we regularly find those secondary disturbances so well known in human pathology—venous hyperæmia of the mucous membrane of the stomach and of the intestines; indurative hyperplasia of the spleen, and finally the animals die from ascites and hydrothorax.

I will just remark, *en passant*, that it is easier to produce these severe organic diseases when the poison is given per *oesophagum*, which allows of an accurate methodic increase of the dose, than when it reaches the organism as inhaled fumes which hardly allow of a moderately accurate regulation of the dose, at least, the arrangements at my disposition were of such a nature that a regulation of the dose was out of the question; besides, in the latter case there is a concurrent irritation of the bronchi. Especially do we constantly find acute bronchitis, at the commencement of which such susceptible animals as rabbits often die, but even to the inhalation of the fumes of phosphorus they may be pretty easily accustomed. I have not found secondary affections of the lung-tissue, pneumonia, and pleuritis, any oftener than they may be observed under ordinary circumstances; tuberculosis I have never seen, so that a specific action of the fumes of phosphorus on the lung-tissue proper would not seem to be proved, either experimentally or clinically.

That part of the body on which phosphorus in the second place exercises a prominent influence is the bony apparatus.

Its influence on the osseous system.

To begin with, we must separate those cases in which the more or less considerably concentrated fumes of phos-

phorus come into immediate contact with the periosteum, and those in which minimum quantities of phosphorus in substance (probably in the form of vapour) are taken up by the blood and circulate in relatively high attenuation in it, and by means of the vascular system are indirectly brought into contact with the osseous tissue. For the sake of brevity I will, although the expression is not quite correct, designate the former process the *direct local*, and the latter the *indirect general* influence.

Direct local influence of phosphorus fumes on the periosteum.

Let rabbits be confined for weeks and months in an atmosphere pregnant with the fumes of phosphorus,* and we shall see that, after the primary bronchial irritation has subsided, they get accustomed to it; in the macerated cranial bones we see nothing abnormal except minute and hardly visible osteophytic subperiosteal deposits on the bones forming the confines of the nasal cavity. In a very insignificant minority of them there arises generally without any evident external cause a tumefaction on the upper and lower jaws, the bone pushes out processes, the soft parts often swell monstrously from extensive caseous infiltration, respiration becomes difficult, and the business of mastication is interfered with. The thickening of the bone advances continually, the soft parts have become board-hard, and their tension is ever increasing, until, finally, motion of the jaws becomes impossible, and the animal succumbs from inanition.

When in rabbits death follows from an acute or chronic disease we generally find a relatively considerable quantity of food in the intestinal tract, inasmuch as this animal above all others possesses until its death a most enviable appetite;

* For this purpose I latticed off a certain space free from draught, and made the windows of fine wire-netting; into this space the rabbits were put and kept, and every day I threw in several bits of pure phosphorus or poured out some oleum phosphoratum, so that there was continually a distinct smell of phosphorus in the space.

here, however, the stomach and the greater part of the intestinal canal are quite empty ; there is at most a little mucous secretion in them, in fact, the animals are absolutely starved to death. After the extremely firmly-adhering, caseously infiltrated soft parts are stripped off, or better, rolled off, we see extensive and often enormously thick osseous deposits of very dense structure on the superficies of the jaw, generally starting from the alveolar margin and extending within and without as far as the angle of the inferior maxilla ; if the affection has its seat in the upper jaw it extends to the nasal, lachrymal, and frontal bones.

There are : infundibuliform ulcerations of the bones filled with a caseous exudation and having crateriform everted edges ; superficial or deep partial necrosis of the old bone and often enough also of the neoplastic osteophytes. In other words, the maxillary periostitis with whole masses of osteophytic new growths and necrosis so well known from observations in the human subject. Although we do not observe in rabbits that total necrosis of the jaw which has been so often observed in man, yet the reason of this does not lie in an essential difference in the whole process, but is evidently to be sought in the fact that in rabbits the local development cannot attain the same height as in man ; for, with the caseous and firm condition of the exudation and the impossibility of its being cast off, there follows such a tension of the soft parts that very soon food cannot be taken and inanition results. In the human subject the purulent exudation is of a fluid nature, and makes itself a way out, or is got rid of by the aid of art ; eventually artificial feeding steps in, and the process has sufficient time to develop itself with relatively little harm to the organism as a whole. In the rabbit death follows under the first-mentioned circumstances in from five to ten weeks, while the chronic phosphorus periostitis of the maxillary bones in man may, as is well known, extend over many years.

The number of labourers in a phosphorus match factory and the number of animals experimented upon being composed of but very few individuals, the circumstance that they, living under similar noxious general conditions, suffer

from the same maxillary affection, cannot well be explained otherwise than by supposing an additional special personal causal accident in each individual case. Indeed, clinical observation has proved, with great probability for most of the cases in the human subject, that caries of the teeth furnishes an atrium for the irritating influence of the substance; in the few cases in which caries did not exist, a traumatic lesion, consisting in a denuding of the periosteum, must be accepted as the cause in the individual case.

Also in my experiments the process in one instance probably started from a diseased incisor of the lower jaw; in most instances I could find nothing abnormal in the teeth excepting that some of them were secondarily loosened by the perialveolar periostitis to such a degree that they easily fell out, or they were sometimes thrown off with a bit of the jaw in consequence of a circumscribed necrosis of the bone *in situ*. In these cases we must fall back upon the already-mentioned hypothesis of an opportune wounding of the periosteum, the more so as the jaw from its function and exposed position is so easily hurt; and then again experiment has confirmed it.

If from the inner surface of the jaws of a number of rabbits we excise little bits of the mucous membrane, so that the periosteum lies free, such defects heal up rapidly under ordinary circumstances; but, if the animals are exposed to the fumes of phosphorus these little circumscribed places become constantly the seat of an extensive caseously ossifying periostitis with partial necrosis of a perfectly typical kind. By this experiment it is, I opine, proved that a phosphorus necrosis may, indeed, arise from an insignificant lesion of the periosteum such as may easily occur accidentally. That the maxillary periostitis with all its sequelæ are not due to a general action of phosphorus but to the local ingress of the irritating fumes is seen, from my feeding experiments with phosphorus, continued for several months, and in the subjects of which there must necessarily have existed the same accidental lesion, as I have never had an opportunity of observing, either in the jaws or in other bones, any malignant periosteal affections.

Nay, more : if we, in the course of feeding experiments with phosphorus, denude the periosteum in the before-mentioned manner, we see that the wounds heal, provided the animals are living in normal atmosphere, just as quickly as under ordinary circumstances.

Hence it appears probable that the fumes of phosphorus, when in direct contact, exercise a specifically irritating influence on the periosteum. If this be so we might expect, under similar circumstances, something analogous in other bones. This also is proved by experiment. If we free the internal broad surface of the tibia of a rabbit by incision in, and partial excision of, the soft parts covering it to such an extent that the periosteum is denuded for some little way, and then maintain this condition for some weeks by tearing the parts which show signs of healing, we see, under ordinary conditions, that an insignificant superficial ossifying periostitis of the tibia arises and extends as far as the wound, the products of which are, however, transitory and quickly disappear by resorption after cicatrization has taken place. On the other hand, if we bring animals similarly treated under the influence of the fumes of phosphorus, the intensely irritated periosteum produces denser and thicker layers on the surface ; there arises a disproportionately more considerable, thicker hyperostosis, and strangely enough a hyperostosis whose bony substance has a stable character and maintains itself unaltered for months after the healing process has been completed.*

Although the periostitis artificially produced in the tibia by the fumes of phosphorus does not take the same caseous ulcerative course as that in the jaw, this may be explained by the fact that in the former case the irritating substance does not come into such intimate contact with the periosteum as is the case in the jaw. In an extremity, no

* Perhaps this is due to the fact that the osseous substance formed under the influence of phosphorus fumes has from the very first a far denser, almost sclerotic, structure, and very few blood-vessels, while the ordinary osteophyte is likewise in rabbits very porous, and possesses blood-vessel spaces, and is as a consequence more easily resorbed.

matter how much of the periosteum be denuded, the atmosphere, pregnant with the hurtful substance only, passes by and just touches the sore parts, and, besides, they are relatively protected by the layer of secretion which is always present, while in the jaw the processes of respiration and of mastication cause the noxious substance to be brought into intimate, almost continual, and at times violent contact with the irritated places; it even becomes, to some extent, pressed into them.

By these adduced observations it is, I think, made probable that the phosphorus necrosis in man and in animals is not to be considered, as formerly was done,* as the expression of a constitutional suffering, of a dyscrasia, but as a purely local affection occasioned by the locally irritating influence of the fumes of phosphorus. These same fumes operate everywhere, when brought into direct contact with the periosteum, as an irritant on this latter; the irritation confines itself within the limits of formative processes; there arises a pure ossifying periostitis when the fumes relatively but little concentrated simply reach the denuded parts; but when they are concentrated and brought into pretty forcible contact with the parts, as in the jaw, it becomes of a purulent, malignant nature and has all the consequences of this intensification.

General influence of phosphorus on the osseous system.

If we give to a rabbit, dog, cat, or fowl minute doses in pills, doses that are so insignificant that they produce no disturbances in the stomach or liver,† or if we cause them to inhale atmospheric air moderately charged with the fumes of phosphorus, and subsequently and after a relatively short time (ten days in those which are quickly

* As Lorinser expresses himself, "Reflexion on separate bones of the constitutional suffering brought on by phosphorus."

† I have given phosphorus in proportionate quantity to new-born rabbits without any harm whatever to the general health of these so susceptible little animals, but with a very evident influence on the bones.

growing, three weeks in others) carefully examine their bones, we shall find changes of a more or less different kind, and which evidence their presence in different ways, according to the stage of growth of the animals experimented upon. These changes are most easily observed in growing individuals, and if these are large the changes are almost tangible. As explanatory of what follows, I will just remark, *en passant*, that in the representation and reading of presently following facts, with regard to the theory of the growth of bones, I start from the standpoint essentially won in the experiments of John Hunter, Duhamel, and Flourens on the one side, and the histological investigations of Kölliker, Virchow, and Heinrich Müller on the other hand. From the most recent observations of Hueter, Volkmann, J. Wolff, and Ruge, it appears probable that the interstitial expansion of the osseous tissue participates also to some extent in the general growth of the bones. I do not agree with the extreme views regarding the growth of bones which Wolff seeks to establish on the basis of the observations of Hermann Meyer.

Under the influence of phosphorus a tissue is formed, in all those places where physiologically spongy osseous substance is developed from cartilage, having wide meshes, and much red medullary tissue, that seen with the naked eye appears perfectly homogeneous, solid, and compact, just like the osseous mass in the cortex of long bones.

We thus see the process in the epiphyses and apophyses of cylindrical bones, in the vertebræ inclusively of the cranial vertebræ, in the ribs, in the scapula, in the pelvis, in the tarsus and carpus bones, &c. The longitudinal section of a cylindrical bone seems most instructive. I saw it best in such a section of the humerus of a calf with whose food phosphorus had been mixed for eight weeks. In this specimen there was a large zone of apparently perfectly compact osseous tissue, whose heterogeneity as compared with the normal condition was very striking, extending from the intermediary cartilage of the upper epiphysis. Also a similar but narrow zone in the inferior epiphysis in its entire circumference where cartilage and bone meet. The

same in the caput and tuberculum majus. The layers correspond in height pretty nearly to what, under ordinary conditions, is developed from the cartilage as spongy substance. That part of the spongy osseous tissue which was developed before the feeding began, remains perfectly unchanged. The absolute height of the phosphorus layer is not equal in the two epiphyses of one cylindrical bone; it differs according to the energy of growth of the two intermediary cartilages which I have demonstrated to be the case normally, and in the pathological processes of rachitis, syphilis, &c. Thus, to give an example, the phosphorus layer is pretty nearly equally high at both ends of the tibia; at the inferior extremity of the radius and of the ulna it is very high; in the superior epiphyses of these bones, however, very insignificant; in the humerus it is higher in the upper epiphysis than in the lower one, &c.

The substance of the phosphorus stratum shows itself under the microscope to be real well-formed bone; the large medullary spaces are reduced to the usual size of the Haversian canals of the compact osseous substance, and around them is an indication of lamellar stratification of the tissue. The mode of development from cartilage is the same as usual, with this difference, that by far the greatest number of the proliferated cartilage cells are not transformed into medullary cells, but into bone-corpuscles which secrete the usual quantity of intercellular substance.

If the feeding with phosphorus be continued, dense osseous substance is always added to the cylindrical bone from the intermediary cartilage, while the existing spongy substance formed before the feeding obeys the physiological law by becoming disintegrated and absorbed to form the medullary canal. Thus one sees, after a certain period, according to the rapidity of growth, the entire normal, spongy, osseous substance at the extremities of the diaphyses becomes replaced by a compact solid bony mass.

If we continue the feeding with phosphorus still longer, we find that the abnormally formed bone-substance likewise follows the physiological law for the formation of the medullary canal; the oldest layers, which are pushed nearest

to the centre, again become rarefied, and at last changed into red medullary tissue. In this way, at least in the rabbit and dog, perfect solidity of the cylindrical bones by the obstruction of the medullary canal with compact bone substance cannot be attained.

If the feeding with phosphorus be arranged with intervals of abstinence, we find developed from the intermediary cartilage strata of dense compact substance alternating with others of ordinary spongy structure.

If the animal experimented upon reaches the end of the period of the longitudinal development of the epiphyses while being continually fed, the compact mass remains in the place of the spongy substance, but whether, or after what time, it becomes rarefied remains undecided.

The modification of the periosteal processes of apposition, upon which the transverse development principally depends, is the same in principle, though not so easily recognised. To the naked eye the bone which is developed from the periosteum while the animal is being fed with phosphorus appears pretty much like ordinary bone; the microscope, however, shows that the bone-substance is denser, and that at the expense of the blood-vessel spaces of the Haversian canals. It would seem, too, if the feeding is continued for a considerable time, especially with relatively large doses, that the cortical substance of the cylindrical bones formed before the feeding becomes secondarily sclerosed in a similar manner to that formed at the time of the feeding.

By the long-continued administration of large doses we may attain to a pretty considerable narrowing of the Haversian canals *in toto*, but never, as far as I have seen, to a total occlusion of them.

It is hardly necessary to mention that similar conditions prevail in the growth of the flat bones from the periosteum, and from its histological equivalent, the sutural substance.

Two difficult questions here present themselves to the observer:—First, what is the final result of a feeding commenced early in the animal's life, perhaps just after its birth, and continued for a long time, eventually till the close of the period of development? Does the bone, which

in every case is composed of denser substance, attain the normal length and thickness which it would have done under ordinary circumstances, or is it longer or shorter, thicker or thinner? Secondly, is the growth, apart from the greater density within the ordinary cubic development, slower or quicker; that is, within an equal period of time, as compared with the normal, have we more or less secreted in length and thickness?

The solution of these questions is involved in extraordinarily great, almost insurmountable, difficulties. Since an ideal standard measure for the growth prescribed for each individual bone does not exist, and since we cannot recognise by a look at a bone how long or how thick it would grow under physiological conditions, or how quickly it is destined to grow, we are in each case limited to comparison with other cases. But then it is just the same in animals used for experimental purposes as it is in the human subject, in whom, quite apart from circumstances that may have a pathological influence, the oscillations of the physiological sphere in the different races, and families, and indeed in single individuals of the same families, are so important that comparative single observations can only be accepted with the greatest reserve; the results of whole series of observations as means of proof can only be used when the series, indeed, comprehend really significant material, and the average factors are deduced with the greatest possible circumspection, and possess a certain constant value.

A large number say of geese should be taken, and the half of them fed from birth till growth is completed, and the other half be allowed to grow up under ordinary conditions. Then a comparison of the average figures would allow of final judgment as to whether there were, indeed, on the whole, a plus; that is, whether the bones at last get absolutely longer and thicker, or whether a plus be produced within a certain period—that is, whether the bones grow more quickly.

I have tried to carry out some experiments of this kind on a smaller scale on dogs and rabbits. Of these animals I kept a considerable number of large breed after the animals

had attained a certain age, so as to allow their future, more important individual differences, at least, as far as predispositions go, to become evident. One half of them got small doses of phosphorus, and the other half grew up under otherwise similar conditions, but without the phosphorus. Some unlucky star must have influenced these experiments, for not in one single instance could I continue the comparison to the end. By some accident, in itself strange enough, those animals that got no phosphorus almost regularly went to the wall from all sorts of intercurrent diseases. I cannot, therefore, give any results founded on exact measurements; I can only mention one impression which the comparative observation of the development of these series of animals made upon me. It seemed, not only to me, but also to persons that had nothing to do with the care of the animals—I say expressly, it *seemed* as if those animals which were treated with phosphorus, on the whole, developed themselves better, and were more powerful, and as if the osseous system, and with it the muscles, were of more solid growth. Hence it would appear that the growth really becomes quicker for the time; whether a higher degree of development be finally attained seems doubtful. The theoretical question as to whether, by the consequent use of phosphorus as a matter of diet, with the food, from early youth, and continued through generations, gigantic forms can be produced, or whether, in consequence of the premature consumption of the epiphytic cartilages, which may perhaps arise from temporary superproduction, we should arrive at producing dwarfs, must for the present remain undetermined.

For the longitudinal development of the bone I must, for the time being, content myself with these observations, somewhat doubtful though they be. We can say something certain about the transverse growth. If we compare the cylindrical bones of growing animals which have been for months fed with phosphorus with equally long ones of normal animals, it is seen that, with equal circumference, there is a greater thickness of the bony shell of the diaphysis at the expense of the breadth of the medullary canal. It

would, therefore, seem that when phosphorus is given, the resorption of the internal layers does not take place so completely as is normally the case. There remains a certain quantity of the compact osseous substance lying nearest the centre, and forming the limits of the medullary canal, instead of its becoming transformed into soft medullary substance, so that thus the capacity of the medullary canal becomes narrower, the cylinder of marrow thinner, and the bony shell thicker. Similarly the flat bones of the skull seem thicker as compared with their circumference.

If phosphorus be given in small doses to the animals after their bones have ceased to grow, the spongy tissue in the epiphyses, vertebræ, &c., gets a little thicker, the osseous spicula and lamella are a little broader and thicker, without its, however, even approximately coming to a sclerosis of the spongy part as we have seen it in the newly deposited layers of growing animals. Also the compact substance both of the cylindrical and of the flat bones becomes more dense from the narrowing of the vascular canals. Just as the medullary tissue, in the meshes of the cancellated substance and that around the circumference of the vessels in the Haversian canals, in part becomes changed into bone, so, also, in consequence of continual feeding with phosphorus, does a part of the medullary substance which fills the large medullary canal undergo an ossificatory process; and it is the peripheral layers that ossify, so that while the circumference of the bones remains constant the medullary canal becomes contracted, the compact crust gets thicker by the deposition of new layers within. This process is not peculiar, as the ossificatory power of the red marrow has been demonstrated under normal conditions, and also in pathology by older observations, and in modern times by the successful attempts at transplantation. Its subsequent ossification in adult animals which, in rabbits, does not exceed a certain narrow limit, occurs in a very evident and really astonishing degree in fowls. In fowls we can, at last, succeed, by feeding for several months with phosphorus, in obtaining a complete occlusion of the original medullary

50. *The Influence of Phosphorus on the Organism,*

canal with real osseous substance ; we form a perfectly solid bone which no longer contains any medullary canal.*

It is interesting to remark here that this process of total occlusion of the medullary canal in the different cylindrical bones does not run its course in the same time.

At a time when the tibia is already perfectly solid the femur still retains a rudiment of its medullary canal, and that in the humerus is relatively very capacious, though absolutely much narrowed. The sequence is this, the bones of the tarsus, the tibia, the bones of the fore-arm, the femur, and, lastly, the humerus. If the muscles of the extremities do not hypertrophy in direct proportion to the increasing weight of the bones the gait of the animals gets to be peculiar indeed ; it is awkward, clumsy, the otherwise jaunty strut disappears and they seem to grope their way about ; if the animals want to move forwards more quickly they spring in jerks.

It is, as a lay observer expressed himself, as if they had lumps of lead on their feet.

To learn whether the bones become altered in their chemical composition in consequence of the feeding of the animals with phosphorus, I had a number of analyses both of normal bones and of the bones of animals to which phosphorus had been given made by Dr. Gad. The following are some of them :

	CO ₂		PO ₅		Anorganic substance.		Organic substance.
I. Normal dog, radius...	4.08	...	28.52	...	72.90	...	27.10
II. Ditto, humerus...	3.67	...	28.50	...	70.27	...	29.73
III. Ditto, ditto	3.47	...	28.70	...	70.98	...	29.02
IV. Dog, femur, phosphorus, 25th May to 30th Sept., 1871.....	3.47	...	28.44	...	69.78	...	30.27
V. Dog, femur, phosphorus, 16th July to 6th Oct., 1871	4.23	...	28.41	...	71.43	...	28.57
VI. Normal calf, femur, compact substance...	3.67	...	29.35	...	72.78	...	27.27

* In fowls we have at the same time almost always osteophytic deposits on the external surface of the bones. It is most easily attained when the animals get no lime in their food.

	CO ₂		PO ₂		Anorganic substance.		Organic substance.
VII. Calf, femur, compact substance, phosph., 8 weeks	4.01	...	29.38	...	73.52	...	26.48
VIII. Calf, phosphorus, most dense stratum of the cancellated tissue	8.18	...	30.77	...	74.11	...	25.89
IX. Calf, phosphorus, less dense stratum of the cancellated tissue	3.22	...	30.06	...	72.65	...	27.35

The consideration of the analysis shows that the composition of the bones of the animals fed with phosphorus does not differ materially from that of normal bones, either with regard to the proportion of the anorganic to the organic substance, or, indeed, with regard to a plus of the salts of the acids of phosphorus. Specially important is a comparison of the analysis vii and viii; the phosphorus layer, which apparently differs so much from the normal, deviates but little in its chemical composition from the normal cancellated tissue.

After having thus proved what a profound influence phosphorus exercises both on the normal development of bones, and then on the fully-developed bones, of animals,* it was not out of the way to call attention to the question as to whether it might not be made of service by-and-by in the processes of pathological osteogenesis. In the most prominent position stood the disturbances in the general development of the osseous system in osteomalacia and rachitis, which in all probability are constitutional, and in the next place the anomalous osteoplastic processes confined to certain regions of the body, and of which are caries, fractures, subperiosteal resections and periosteal transplantations.

From want of material for experiments I can say nothing

* I have been in a position to prove the perfect analogy of the processes in the human subject although only in their earlier stages, viz. in a child that had suffered from chronic broncho-pneumonia and general scrofulosis, and been treated during two and a half months with small doses of phosphorus for bad development of the osseous system, of whose body I performed a post-mortem examination.

about osteomalacia. This affection does not often occur in the domestic animals hereabouts. In the future no doubt experiments will be made with this remedy in such places as certain parts of Bavaria and Holland where osteomalacia is an enzootic disease of horned cattle, the more so as thus far this disease has completely baffled all endeavours to bring it under the control of remedies, and we must all admit that it is of great significance for the national economy of the affected districts.

Although Berlin is hardly a favorable place for observations on osteomalacia, yet it possesses ample opportunities for the study of rachitis and concomitant affections.

This disease is hardly anywhere so rife as among the offspring of the Berlin proletariat that populates our children's hospitals. If here observation were as easy as the material is great, we should very promptly settle the question. But the difficulties in the way of observation are here indeed not small. Explanatory hereof I will make use of a simile. It is certainly not easy to study the undulatory systems produced by a stone thrown into water whose surface is as smooth as a mirror; but who would dare to analyse the course of the waves when that same stone falls upon water troubled by a whirlpool or lashed by a hurricane, the mechanical laws of which we do not know? Even the normal osteogenesis offers so many complicated relations that, notwithstanding the very extensive investigations of numerous trusty explorers with knife, saw, and microscope, we are not yet at one on all points. How much less may he think little of the difficulties of his task who undertakes, in the checkered chaos of lines as they appear in rachitis, in the confusion of cartilage and bone, osteoid and red medullary tissue, calcified cartilage, and connective tissue, to follow the coloured line which a still more powerful therapeutical influence has drawn. To this must be added the fact that rachitis is spontaneously curable, and this possibility must not be lost sight of when we come to consider the modifying influence of phosphorus on the rachitic processes. One sees no end of difficulties, at least for an exact anatomical proof, and so great that I, for

one, after having examined a certain number of rachitic bones on the development of which phosphorus had co-operated (certainly not long), must consider myself quite unable to give an opinion on the subject, and I must leave it for the future to decide what influence phosphorus has over the rachitic diathesis.

I have made no observations whatever on the influence of phosphorus over carious processes.

On the other hand, I can give an all the more certain positive opinion on the modification produced by this remedy on the development of bone in fractures, subperiosteal resections, and transplantations of peritoneum, because they are all easily experimented upon. For all these cases I can summarise the result of numerous experiments to the effect that traumatically irritated periosteum produces under the influence of phosphorus a more plentiful, dense and solid bone substance; especially in fractures does the callus attain a perfect eburnean structure. Even here, considering the difficulty of quite exact comparisons, I should not like to make a final decision with regard to the question as to whether the osseous neoplasia is accelerated in point of time; however, I was generally impressed with the conviction that, especially in resections, the development of new tissue was considerably faster than under ordinary conditions.*

Theory of the chronic influence of phosphorus.

Observers who have occupied themselves with the study of the symptomatology and of the anatomical changes in acute poisoning with phosphorus have long since asked themselves the question—What substance is it which in the last instance exercises the so deleterious influence on the organs? From numerous more or less reliable experiments made for

* I will cite as example that in a rabbit in which a third of the tibia was resected subperiosteally a total regeneration took place in five weeks; in a dog in which more than the half of the radius was resected, the periosteum being saved, the whole was regenerated within seven weeks.

this purpose, and from never-ending discussions on the subject, it would appear very probable, according to the lucid critical observations of Husemann, that in the so-called poisoning with phosphorus we have to deal with very complex processes; we have to consider, though probably only in a less important degree, the products of oxidation of phosphorus already formed in the stomach, intestines, and partly also in the blood—the phosphorous and phosphoric acids. The action, however, rests principally on the phosphorus contained as vapour in the blood and in the different organs, and perhaps in the phosphuretted hydrogen dissolved in small quantities in the blood; for the formation of the phosphuretted hydrogen out of the phosphorus taken into the stomach, we find, according to the investigations of Dybkowsky, the requisite conditions given in the intestines.

If we meet with such considerable difficulties in the decision of this theoretical question, even in *acute* poisoning, as are evident from the extensive literature existing on the subject, and from the extremely numerous experiments, to settle it in relation to *chronic* poisoning with phosphorus will be almost out of the question.

When phosphorus is ingested into the stomach, and this is at present almost the only known method for its administration, which ingestion may be carried on for some time without causing much inconvenience, there are formed, besides the disintegration of the phosphorus into vapour, at any rate, a whole series of different compounds, phosphorous acid, phosphoric acid, phosphuretted hydrogen, phosphorous and phosphoric salts, &c., all of which we do not even know, let alone being able to follow them in their metamorphoses and influences; as to a method for injecting those that we do know direct and pure, and during a considerable time, into the blood, such is at present unknown.*

Without, therefore, wishing to prejudice the answering of this question in its purely theoretical sense, we may, I

* I have tried hypodermic injections of the various compounds; in rabbits caseous deposits are formed immediately, in the dog, suppuration with all its disturbing sequels, so that I was soon compelled to give up this method.

think, profitably and practically formulate it thus—Which of the above-mentioned compounds of phosphorus is it which, ingested into the stomach during a considerable period, exercised the hereinbefore detailed actions on the stomach, the liver, and on the entire osseous system; is it the phosphorus in substance, is it the phosphorous acid, the phosphoric acid, or the phosphuretted hydrogen? The last-named body is probably formed already in the stomach and intestines, at all events, it is transformed immediately after its entrance into the blood into phosphorous, or phosphoric, acid, and thus the question becomes reduced to the phosphorous acid, the phosphoric acid and the phosphorus in substances, which last is capable, beyond any doubt, of being absorbed as such. I will just remark in passing that I have made numerous and long-continued experiments in feeding, both with amorphous phosphorus and with the phosphate of lime. Both substances are borne by rabbits in any quantity, and without the slightest detriment, but also without any result. They seem to pass unchanged through the intestinal canal without exercising the very slightest influence either on the stomach, liver, or osseous system. While I therefore cannot admit of these two substances any irritating influence on the osseous tissue, I nevertheless consider it proper in disturbances of the osseous development, in fractures, &c., to put the phosphate of lime in proper quantities within the reach of the organism, in order to place, at any rate, a sufficient quantity of the alkali at its disposition.

If we give rabbits during some considerable time larger doses of phosphorous or phosphoric acid, doses far exceeding the doses of phosphorus that I ever gave, the phosphoric acid, and in a less degree the phosphorous acid, cause violent irritation of the mucous membrane of the digestive tract; but this is essentially of a secretory nature, the glands become tumid, their cellular elements multiply, more or less profuse diarrhoeas are occasioned. The interstitial tissue, however, has no part in it, the before-described indurative thickening of the mucous membrane of the stomach does not occur even after the long-continued use of large doses.

I have never observed any changes in the liver, nor are the glandular elements or interstitial tissue ever affected. Hence it follows that the influence on the stomach and liver, such as we described as arising after the use of large doses of phosphorus, is to be laid to the charge of phosphorus as such.

For the influence on the osseous system the matter is somewhat different. Here we can but admit that relatively small doses of phosphorous and phosphoric acids are given without any particular effect; very large doses, however, a thousandfold larger than the largest doses of phosphorus given by me, really produce an increased density in the newly developed osseous tissue of growing animals during the time the feeding is carried on. If we, however, compare the relative quantities of phosphorous and of phosphoric acids on the one hand and those of phosphorus on the other, then there can be no question about the brilliant action of quite minimum doses of phosphorus which must be attributed to the products of oxidation from the phosphorus. Doses of these products of the oxidation of phosphorus, corresponding in atomic weight to the quantity of phosphorus used with effect, have little or no influence on the osseous tissue. While we must, therefore, in principle, admit that both the phosphorous and the phosphoric acids exercise a certain limited productive influence on the development of bone, we yet cannot doubt but that, considering the intense influence of minute doses of phosphorus, the principal part must be ascribed to phosphorus as such. Here another question with regard to a right explanation of circumstances relating to the osseous system crops up: it is a direct, formative irritation of a specific kind, which the phosphorus, probably circulating as vapour in the blood, exercises on the osteogenetic tissue, or is such abundant development of bone caused by its supply, but in a more indirect way? To explain what I mean by a more indirect way I will adduce an analogous fact from pathology. When, in consequence of the development of numerous soft tumours which cause the disappearance of the hard bone substance, a great quantity

of anorganic salts in the osseous system becomes absorbed and circulates in the blood, the circulating medium disposes of its inconvenient surplus by depositing it, perhaps temporarily, in other tissues, as in the lungs, in the stomach, and sometimes, very ateleologically I must say, in the kidneys; thus arise the so-called lime metastases of these organs.* According to this it is certainly allowable to suppose that something similar might happen when from a continual supply of phosphorus, in consequence of its oxidation, the salts of its acids become so abundant in the blood that the renal and the intestinal secretions no longer suffice for the elimination of the surplus. One could imagine that the general economy instead of depositing it in more or less vital organs might become stimulated to form a new tissue in the necessary quantity in order to store up in it the superfluous and inconvenient matter in an innocuous and comfortable manner; this would be the newly formed masses of osseous tissue and the whole process the more indirect way which I mean.

This way of taking it, which has, as far as I can see, nothing incompatible in it, is, however, probably not correct, for the following reasons:—in the bones of young calves, more than in other animals, the newly deposited layers externally on the periosteum remain comparatively long as soft osteoid formations; if an overloading of the blood with the salts of the acids of phosphorus takes place, one would think that the organism would make haste to deposit them in this appropriate tissue ready at hand. But this is not the case. The comparison of the bones of my calf fed with phosphorus with the bones of normal animals teaches that on the contrary a number of the newly-formed strata remain for some time in a soft condition.

We might therefore expect, if we hold to the last view, with some probability that the osseous parts developed before, and especially those developed during, a long course of phosphorus (the former from secondary processes, the latter from a modification of the formation itself) would contain a large quantity of anorganic substances, that in

* Virchow's *Cellular Pathology*, 4th edition, p. 252.

contrast to the normal a deviation in the quantitative composition would take place in favour of the anorganic substance. Chemical analyses show that is not so ; they show that, apart from certain unimportant fluctuations that are not always in favour of the anorganic substance, the composition of the bones produced under the influence of phosphorus is normal.

Finally, the principal argument against the theory of the production of bones in the indirect way is the following:—If during the feeding with phosphorus we artificially prevent a real surcharge of the blood with the salts of the acids of phosphorus, nay, if we bring the quantity of these salts in the blood down below the normal, we get, nevertheless, a superproduction, not, indeed, of bone but of its histological equivalent of osteoid tissue. To this end I have for months together fed young growing fowls with distilled water and carefully washed food ; as is well known this extremely diminished supply suffices, according to the researches of Chossat, to change the hard osseous tissue into soft osteoid tissue, and to make the bones thin, soft, and fragile. If we combine feeding with phosphorus with this regimen we find it very evident that similar abnormally dense osseous substance becomes developed in the epiphyses, and these new growths differ from those formerly described only in this, that they are not composed of really hard bone but of unusually dense osteoid tissue.

If we produce fractures there is the same kind of callus in great quantity and extraordinary density, and not of hard really bone structure, but of an osteoid and partially of a cartilaginous nature. With the existing actual want of anorganic salts under such circumstances as these, I think proof is produced that it cannot be a surplus of them in the blood which makes the organism produce such masses of osseous tissue, but that this, side by side with the before-mentioned facts, makes phosphorus itself appear to be that substance which exercises a specific plastic irritation on the osteogenetic tissue.

It is extremely interesting to observe that under the

simultaneous influence of feeding with phosphorus, and of the deprivation of the anorganic substances, especially of lime, the mode of growth of bones is altered so as exactly to correspond to what we are accustomed to call rachitis. As an example I made a section of the upper extremity of the tibia* of a normal dog, and compared it with a similar section of the tibia of a young dog fed as above. In that of the young dog thus fed we see a translucent hypertrophied cartilaginous mass, traversed by numerous broad medullary spaces; running into this is the zone of calcareous infiltration, in itself very imperfect, and composed of irregular undulatory spicula; the cartilaginous mass itself is extraordinarily high, and of a gelatinous consistence. At the spot where well-developed, coarsely reticulated, cancellated osseous substance should be formed, there exists a very extraordinarily dense osteoid tissue; the microscopical examination shows us the more minute structure, and how all these processes planlessly run into one another; in one word we have an exact picture of rachitis. The conditions under which this artificial rachitis arises is a not unwelcome confirmation for the theory which an exact observation of the process has already set up, viz., that rachitis is conditioned by two factors: first, an insufficient quantity of anorganic salts in the blood, either from insufficient ingestion of the same, or from their excessive elimination; secondly, a constitutional irritation influencing the osteo-genetic tissue.

If we summarise all the observations which we have thus far mentioned, we shall be able to delineate a complete picture of the chronic influence of phosphorus on the organism as follows:—Phosphorus in minute doses in all probability is dissolved in the blood and circulates with it, operates on the osteo-genetic tissue as a specific plastic irritant brought topically in the form of vapour into contact with denuded periosteum, in moderate concentration it provokes ossifying periostitis. If the fumes operate very

* I hardly need say that the conditions are analogous in all the other bones that are developed from cartilage. The processes in the periosteum are analogous though not so intense as are often observed in the human subject.

energetically, the irritation becomes so intense that supuration is added to the ossificatory processes. Administered in much larger doses, either as fumes or by the œsophagus, its influence while not exceeding certain limits as regards the osseous system, very prominently affects the digestive apparatus. The interstitial connective tissue of the liver and of the stomach becomes irritated, there arise chronic indurative gastritis, and chronic interstitial hepatitis, with icterus, and atrophy of the hepatic substance; the last link of the chain is atrophy of the liver, either the smooth or the lobulated variety, or else the classical granular atrophy—the so-called cirrhosis.*

The preceding observations have shown that with small doses of phosphorus, which in nowise exercise a hurtful influence on the organism as a whole, we can attain a considerable provocation and advancement of the development of bones. With the total want of any known internal remedy capable of stimulating the osteo-plastic processes to a more energetic action, therapeutics will have to take special notice of phosphorus. From experiences which have thus far been gathered, the administration of phosphorus would seem to be indicated in general poor development of the osseous system in children, in fractures (pseudarthroses), in sub-periosteal resections, and in transplantations of the periosteum. With regard to osteomalacia I have no positive observations at my disposal, so I must form an opinion from a purely theoretical standpoint. If the real nature of osteomalacia lies in this, that from the originally hard osseous tissue by a proliferation of the cellular elements of the same there is produced a predominantly soft, and consequently for the physiological purposes of the bones, useless substance, then from a theoretical standpoint phosphorus must be looked upon as a true antidote to this disease, for the fundamental idea of the action of phosphorus is just this, that in consequence of the stimulus which it

* The influence of phosphorus, both from the deleterious very large doses and also when simply irritant, is transmitted through the blood of an impregnated doe to the young ones in the uterus, but not by means of the milk of the mother to the young sucklings.

provokes, abnormally dense hard bone is formed from soft osteo-genetic tissue.

The affair is different in rachitis. Considered theoretically it is not particularly probable that the healing remedy for this disease has been found in phosphorus. Here, too, direct observations are wanting at present, and we must therefore leave it for the empirical experience of the future to decide whether this substance, with its powerful action on the osseous tissue, will be sufficiently potent either to stimulate a greater up-take of the anorganic salts into the blood, or to prevent the excessive elimination of the same, and to procure their opportune deposition in the osteogenetic tissue in sufficient quantity. At all events I think a trial must be made with the remedy since, for the time being at least, a more promising one is not known.

To speak generally, we should recommend that for therapeutical purposes phosphorus in substance should be made use of in preference to the phosphorous or the phosphoric acids, for the two latter preparations, to be able to develop any significant action, must be given in doses which, at least in animals, greatly deteriorate the digestive apparatus.

Just as the preceding experimental investigations have a certain value for special pathology, inasmuch as they give us a better insight into the processes as they are provoked in the organism by the long-continued influence of a substance made use of in manufactures, and formerly at least employed as a remedial agent, inasmuch as they have produced corroborative evidence in favour of current theories by producing artificially two so much spoken of, and such interesting diseases—cirrhosis of the liver and rachitis, inasmuch as the specific relation of certain substances to certain tissues are taught by them, and whence therapeutics may at some time extract benefit, just so must we, I think, ascribe to them a no less important significance, in regard to principles, for general physiology and pathology.

In the mean time that class of interesting bodies in which we recognise a specific affinity for certain tissues of the body, and to which we reckon *Mercury, Iodide of*

Potassium a series of organic alkaloids, as *Atropin*, *Curarin*, *Digitalin*, &c., has one more added to its number.

Further, we have here, I opine, exact, convincing, experimental observations that may be repeated at any time, and which prove that one and the same substance, in different quantities and given for different periods of time, can produce totally different actions on the animal organism. Older observations have taught that phosphorus in large doses influences certain tissues, particularly the parenchymatous elements of the liver, of the kidneys, of the stomach, and of the muscles, as an extraordinarily intense per-acute irritation, of such a violent nature that in a very short space of time a fatty degeneration, a necrobiosis of the same, follow ; we have now seen that the same substance, given to the organism in a smaller quantity, while leaving the just-named organs perfectly immune, possesses an irritative influence on totally different kinds of tissue, on the osteogenetic substances, on the interstitial tissue of the liver and of the stomach ; an irritative influence which has not a degenerative, but essentially a formative tendency. There we have ruin, here a stable new growth as a consequence. Let the true cause of this profound difference in the action of different doses of phosphorus lie in this, that really unequally large quantities of it being present in the blood have in themselves a different effect, or in this, that, with the taking up into the blood of a greater or less quantity of the substance, different conditions of absorption and metamorphoses are given, so much so that consequent thereon dissimilar products of transmutation come into play ; at all events, the fact of this fundamental difference of the processes is of trenchant import, both for the theoretical and also for the practical consideration of the subject. I believe that these observations suggest a hint with regard to other substances whose violent toxic action in large doses is known, such as *Iodine*, *Arsenic*, a large number of the poisonous organic compounds being experimented upon with similar objects in view ; and I have no doubt but such experiments, if carried on with a knowledge of the subject, carefulness and patience would enrich our positive knowledge

with many a new fact, would throw new light on our theoretical views, and also open up here and there an odd corner for renewed activity in our therapeutics.

NOTE.—Posological and other hints for similar experiments here follow, and after these some explanatory remarks on the appended chromolithographic and lithographic plates, which may be found at the end of the fifty-fifth volume of the *Archiv*.—*Translator*.

A FEW MORE WORDS ON VISUAL ACCOMMODATION.

By Dr. DUDGEON.

In the *Bericht über die Fortschritte der Anatomie und Physiologie im Jahre 1871*, by Drs. Henle, Meissner, and Grenacher, of Göttingen, there is a notice of my article "On the Mechanism of Accommodation," published in the number of this Journal for January, 1872, respecting which I should like to say a few words. I have no reason to be dissatisfied with the condensed account of my views given by Dr. Meissner, which is very fair and accurate. Indeed, Dr. Meissner points out that some recent observations may almost be regarded as bearing out my views. Thus he says, "As regards Dudgeon's conclusion that in accommodation for near vision the lens undergoes a rotation from without inwards, it should be remembered that, according to Knapp, Adamük and Woinow, the centre of the pupil moves at the same time towards the nasal side, consequently in the same direction; which movement, according to the investigations of the last two authors, does not occur in the contraction of the pupil that takes place without the accommodative alteration in the eye. These authors hence infer that the lens produces this sideward movement of the pupil in accommodation, which Dudgeon will, perhaps, regard as a corroboration of his view."

I need hardly say that I was not aware at the time I

made my investigations of this discovery of Adamük and Woinow, and, indeed, it was only in November last, when the *Bericht* came into my hands, that I became acquainted with it.

But Meissner points out that what I considered a proof that the anterior surface of the crystalline undergoes no alteration in convexity cannot be so regarded. I refer to the experiments made by me below the surface of the water. I found, namely, that the loss of visual power in the eye when immersed in water was restored by the employment of a lens having a focal distance of 1.5 inch *in water* (not as Meissner puts it, "a glass lens of 1.5 inch focus," for if a glass lens is employed it must be one of less than $\frac{1}{2}$ an inch focus *in air*, which when immersed in water becomes a lens of 1.5 inch focus). As the artificial lens of this power is required both for distant and near vision in water, I inferred that there could be no alteration in the convexity of the anterior surface of the crystalline during accommodation. But this was an erroneous inference, for the artificial lens required to restore perfect vision under water represents the refractive power exerted by the cornea and aqueous humour on rays of light passing through them from the air. Now, as by immersion in water the refractive power of cornea and aqueous humour is absolutely extinguished, it is obvious that it cannot make the slightest difference what alteration of shape the aqueous lens may undergo in accommodation during immersion in water; hence, what I regarded as a proof of the non-alteration of the convexity of the anterior surface of the lens was no proof at all.

Shortly after the publication of the paper in question I detected the error alluded to by Meissner, and in a paper read before the International Ophthalmological Congress, in August last, I carefully refrained from citing my immersion experiments as militating against the usually received view of an increase in the convexity of the crystalline in accommodation for near vision. I fully intended to correct the mistake in the present number of this Journal, even had it not been pointed out by Meissner.

Fortunately my proofs of the non-increase of the convexity of the anterior surface of the crystalline otherwise than by the rotation movement of the whole lens on its internal axis, are quite sufficient without this. The observed movements of the candle image reflected from the anterior surface of the crystalline in accommodation and its insignificant alteration in size, prove the change to be one of slight rotation on its vertical axis and disprove its alleged great increase of convexity and forward movement.

Since the article on the mechanism of accommodation was published I have continued my investigations from time to time as leisure and opportunity allowed. More particularly I examined the changes observable in the image reflected from the anterior surface of the crystalline in the eyes of some myopes when they attempted to adjust their sight from distant to near objects. In some, if not in all, of these, I observed that the reflected image of the candle appeared brighter and smaller than in normal eyes, and that in their attempts at accommodation this image moved in an uncertain and unsteady manner. From these phenomena I inferred that myopia does not always or solely depend on increased length of the visual axis, but that it may sometimes be owing to abnormal convexity of the anterior surface of the crystalline and to deficiency in the power of regulating the movements of the crystalline. Myopia may be produced, 1, by undue elongation of the visual axis; 2, by increased convexity of the cornea; 3, by increased convexity of the crystalline lens; and 4, by abnormal refractive power of the crystalline. Careful observations will, I believe, enable us to determine which of these conditions exists in each individual case of myopia.

In order to study the various catoptrical and dioptrical phenomena that take place in the eye I constructed a model of the eye on a scale of ten times the dimensions of the natural eye. The sclerotic is represented by a glass globe having a diameter of twenty-four centimetres painted black on the inside to represent the choroid and coloured white

outside in imitation of the colour of the sclerotic. A section is cut out of the globe in front to receive the cornea, which is represented by a section of a globe of eight centimetres radius of curvature cemented on to the sclerotic over the anterior opening. Behind this hangs the iris made of vulcanised india rubber, with a circular opening to represent the pupil moderately dilated. Immediately behind this, and at three centimetres from the cornea, lies the crystalline lens made of sections of two glass globes, the anterior surface of ten centimetres radius of curvature, the posterior surface of six centimetres radius of curvature. These two sections are united by means of a brass ring, to which they are cemented, and the space between, five centimetres from centre to centre, filled with a mixture of two parts of glycerine to one part distilled water, which gives a lens of a refractive power equal to that of the natural crystalline lens. The whole of the space behind and in front of this artificial crystalline is filled with water, which nearly represents the refractive power of the aqueous and vitreous humours. At the back of the globe exactly opposite the cornea a circular space of the artificial globus is left clear to observe the picture formed on what corresponds to the retina. When the model eye is directed towards a bright image, say a lighted candle at the distance of twenty feet, the image of the candle is accurately focussed inverted on the clear space corresponding to the retina in the visual axis. On bringing the candle nearer to the eye the inverted portion on the retina becomes blurred and hazy in consequence of the focus being thrown beyond the retina, and this haziness increases as the candle is brought nearer to the eye. A slight movement of rotation of the crystalline on its vertical axis suffices to restore the perfect image of the candle on the retina by shortening its focus. The nearer the candle is approached to the eye the greater is the inclination required to be given to the crystalline lens in order to focus the image correctly on the retina.

When we now look into the eye from one side, the candle being placed on the opposite side at an angle of a few degrees from the line of vision, the catoptrical

phenomena of the eye can be easily observed. When the lens is placed as for distant vision the three images reflected respectively from cornea, anterior surface of crystalline and posterior surface of crystalline are seen ; the two former large and upright, the last small and inverted. The image from the cornea is nearest the candle, then comes that from the anterior surface of the crystalline, and nearest to the observer is the small inverted image reflected from the posterior surface of the crystalline. We shall suppose we are observing the eye from the nasal side while the candle is on the temporal side. If we now perform the slight rotation of the crystalline on its vertical axis from temporal to nasal side I suppose to take place in accommodation for near vision, we shall see that the image reflected from the anterior surface of the crystalline moves away from the observer and towards the corneal image. If now we restore the lens to its unaccommodated position and transpose candle and observing eye, the former to the nasal the latter to the temporal side, we see the three images as before. Then if we slightly rotate the lens as in the previous experiment, we see the image reflected from the anterior surface of the crystalline move towards the observer and away from the corneal image, just as it is seen in the natural eye, as I described and depicted in my former paper.

This model has no pretensions to be an accurate reproduction of the eye ten times the size of nature, for the surfaces of the actual cornea and crystalline are ellipsoidal, and those of the artificial eye are spherical. The index of refraction of the real crystalline varies in its different layers, the outer layers having a smaller refractive power than the central portions. The glycerine lens being of the same refractive power throughout represents the average index of refraction of the natural crystalline ; just as the radii of curvature of the spherical cornea and crystalline represent the average radii of curvature of the same parts in the real eye. Notwithstanding these dissimilarities, the model gives a very fair reproduction of the optical effects of the real eye, and all the phenomena of vision are sufficiently

well represented on a large scale in the artificial eye, and, as I have said, they completely corroborate and demonstrate the—truth I was going to say, but I shall say the—possibility of the changes I have conceived as occurring in accommodation, being those that actually take place in the natural eye.

ON HAHNEMANN'S PATHOGENESIS OF BELLADONNA.

By Dr. RICHARD HUGHES.

IN preparing the arrangement of *Belladonna* for the *Hahnemann Materia Medica*, it has been my duty to analyse the symptoms of the drug furnished to us by the master himself in the *Materia Medica Pura*. As it is uncertain when the Hahnemann Publishing Society will be able to issue a new part of their *Materia Medica*, I think it may be of some interest and value if I put down in these pages the result of my examination of our present pathogenesis.

The proving of *Belladonna* commences the first volume of the third edition of the *Reine Arzneimittellehre*, which is that I have used. It contains 380 symptoms observed on or by Hahnemann himself; and 1042 "observations of others." Of these, a considerable number are furnished by the provers associated with him, viz., Bähr, Gross, F. Hahnemann, Hartmann, Hempel, Herrmann, Hornburg, Kummer, Langhammer, Lehmann, Möckel, Stapf, and Wislicenus. The "observations of others" were, in the first and second editions, placed and numbered separately. The rest are collected from books and journals. In the present issue they are amalgamated with Hahnemann's own.

Of the whole collection the master writes thus in his preface:

"Among the symptoms which have been furnished to me by other physicians, and which will be mentioned

together with my own, there are some which have been observed upon sick persons ; however, inasmuch as these persons were chronic patients, and their morbid symptoms had been well ascertained, care has been taken, at any rate by Greding, to distinguish these standing symptoms from those produced by the medicine. Symptoms observed upon such patients are, therefore, not without some value, and may, at any rate, serve to confirm analogous or identical symptoms when obtained from healthy persons.

“In those experiments which have been made by myself and my disciples every care has been taken to secure the true and full action of the medicines. Our trials have been made upon persons enjoying perfect health, and living in contentment and comparative ease.

“When an extraordinary circumstance of any kind—fright, chagrin, fear, external injuries, the excessive enjoyment of any one pleasure, or some event of great importance—supervened during the trial, then no symptom has been recorded after such an event, in order to prevent spurious symptoms being noted as genuine.

“When that circumstance was of less importance, and could hardly be supposed to interfere with the action of the medicine, then the symptoms have been placed in brackets, for the purpose of informing the reader that they could not be considered decisively genuine.”

It is a little surprising that Hahnemann did not adopt some equivalent sign of distinction for the symptoms observed upon the sick, which, according to his own statement, are at least as indecisively genuine, and of only subsidiary value. In default of it these symptoms have for many years been used and cited as if in all respects co-ordinate with the pure effects of the drug's influence on the healthy. But we must not blame him for this so long as he does not fall short of the standard of his own profession ; the fault lies rather with translators who omit his references, and readers who pass over his prefatory remarks.

It appears, then, that we have to trust Hahnemann and his fellow-provers for the symptoms recorded under their names, and from what is said above we ought to be able

to do so with confidence. There remain for examination the symptoms derived from various writers, of whom no less than sixty-one are cited. I have been consulting the originals, so far as I have had access to them, and the following results have been obtained.

1. I begin with *Greding*, because of the mention of his name as above, and because no less than 140 symptoms are credited to him. We are referred for them to Ludwig's *Adversaria Medica Practica* (pr. i, P. 4). We find there a paper by this author entitled "*De Belladonnæ viribus et efficacia in epilepsia habituali, tentamen.*" Epileptics (some of whom were epilepto-maniacs) are hardly satisfactory subjects for pure experimentation; and at least their mental and motor derangements should be considered dubious effects of any drug they were taking. Hahnemann credits Greding with especial care in distinguishing the standing symptoms of his patients from those produced by the medicines. But as I read this author he simply states the phenomena which occurred during the administration, without speculating as to their being medicinal effects or not. It is to Hahnemann himself, therefore, that we must look for the selection; and according as he has conducted it must weigh the value of the symptoms he extracts.

Now it is not encouraging to find that, in the case of *Aconite*, Dr. Roth* rejects all the symptoms observed on patients by this physician, and Dr. Dudgeon† six sevenths of them, as quite impure. But as each case must be judged on its own merits, I will set down one of Greding's narratives in the essay now referred to, noting which of the symptoms Hahnemann has transferred to the *Materia Medica*. The translation is a free one; but it will suffice for our purpose. The numeration of the symptoms is that of Hahnemann's 3rd edition.

"D. E. J—, who had been previously greatly relieved by *Extract of Stramonium* of a dry itch, and simultaneously of her epilepsy, was confined in the month of October, 1769.

* Critique de l'Aconit (*Revue critique et retrospective de la Matière Médicale*, i, 443).

† *Hahnemann Materia Medica*, Part I.

While scarcely recovering from this she was seized, on the night of December 4th, with two severe fits, lasting some hours. From this time to May 15th, 1770, she took by degrees eleven drachms of *Belladonna*.*

"On the day after commencing it she already felt slight contractions of the muscles of the limbs and of those which move the eyes. From the 16th December *each night she perspired profusely* (1295). On the 19th there was great heat of head. On the 20th the menses appeared. On the night of the 22nd there were spasms of the limbs, *and hiccough of half an hour's duration*, with loss of consciousness † *and great sweat* (613), whereupon the menses ceased. On the 25th she began to have *much thirst in the morning, to pass much urine, and to feel dulness of sight* (756, 1192): then came on a moderate diarrhœa with borborygmi, lasting till January 4th. On the 9th January, *on rising from bed she staggered as though drunken* (12). This giddiness continued till the 11th, when a copious epistaxis relieved it. A brief trembling fit on the 13th was followed that night by a free menstrual flow, which ceased on the 15th. *During this last she experienced much præcordial anxiety* (788). On the 19th she was troubled with *hiccough for half an hour, with startings alternately of the left arm and right leg; which were followed by excessive thirst, and great heat of head, and redness of face* (615). *The same heat and redness recurred daily about noon, coming on suddenly, and lasting a full hour, and accompanied with marked dulness of sight and extreme thirst, until the 31st* (1257), when a mild emetic removed it. On February 5th and 6th there were slight tremors of the limbs, and on the following night profuse sweat on the chest. *The catamenia appeared on the 9th, with yawnings and chills running down the back* (787). On the 11th there were sharp but brief pains in the stomach,

* Half a grain at first of the powdered leaves three times a day, and the dose gradually increased.

† *Reminiscentia absentia*. I suppose that Greiding must mean consciousness, and not memory, by this word. Hahnemann renders it elsewhere by "besinnung." The *Hahn. Mat. Med.* in its vocabulary gives "besinnungsverlust" as "loss of the power of recollecting himself."

with diarrhœa,—the limbs feeling peculiarly light and mobile. At dawn on the 18th *she had pains in the right arm like those of rheumatism, with sense of formication, and on the following day spasms of the same arm* (904), which a mild emetic, taken on the 20th, dissipated. But on the following day spasms of the limbs and hiccough returned, and left nausea with anorexia and slight diarrhœa—all of which a dose of *Rhubarb with Sulphate of Magnesia* removed on the 26th. *The catamenia*, appearing on the 4th March, *were again accompanied with præcordial anxiety* (788); but as they flowed more freely up to the 10th, it disappeared. There returned, however, on the 13th, *at dinner and supper time, the same anxiety, with great heat of head, redness of face and bitter taste in the mouth* (1326), lasting an hour; for which a mild emetic was given with benefit on the 14th. On the 15th there was moderate heat of head, pressure at the stomach, and aching of the whole body: *on the following night spasms of the arms only, with loss of consciousness* (46), lasting for a space of three hours, and after these *tormina with leucorrhœa* (645, 797). On the 20th, this last having hardly ceased, there was a return of *heat and redness of the face, with great thirst* (1261), which left her on the 23rd *languid, anxious, and troubled with slight startings of the limbs* (1072). On the 28th there also supervened nausea, with depraved appetite, which neither a spontaneous vomiting on the 29th, nor a mild emetic taken on the same day, nor a somewhat severe epileptic paroxysm occurring at midnight on the 31st, and lasting five hours, altogether removed. *At the menstrual period* (April 2nd) *she was very thirsty* (789); and *at dinner time on the 4th vomited a large quantity of mucus* (597). On the 7th there were startings of the limbs; on the 11th *sense of formication* (1273); on the 15th, *after hiccough, slight convulsions of head and limbs*. *At last, overcome with nausea and lassitude* (614), she was seized on the 22nd with serious diarrhœa accompanied by *inclination to vomit, and pressure at the stomach* (699), followed by profuse catamenia from the 25th to the 28th. From this date *heat of head alternated with diarrhœa* (698) until the 10th of May, when

she was seized with *violent trembling of the head, with foam at the mouth, and loss of consciousness* (1374). On the 14th, *after a more confined motion, with bloating of the stomach, the head again grew hot* (719). The patient, in no way benefited by the *Belladonna*, now discontinued it, remaining in her usual varying state of health."

The result is, I think, better than might have been expected, as regards this particular case. Twenty out of the twenty-two symptoms taken from it may reasonably be believed to have been the effects of the drug. But the two excepted ones are very serious in the doubt they cast over Hahnemann's care in selection. They are symptoms 46 and 1374 of Hahnemann's schema, where he renders them thus :

"46. Verlorne Besinnung und Krämpfe im Arme, Nachts.

1374. Starkes Kopf-Schütteln, Schaum vor dem Munde, und verlorne Besinnung."

Who, in reading these symptoms, would not say, "How wonderfully homœopathic is *Belladonna* to epilepsy!"* And who, on finding that they occurred in an epileptic subject while taking the drug, would not be indignant at the deception practised upon him in leading him so to think? Such false symptoms do incalculable harm; and if we could get rid of them only by rejecting the citations from Greding *en masse*, I should be quite prepared to advise it. There is, however, an intermediate course. I think that, all epileptiform or maniacal symptoms being ruthlessly expunged, the rest might be suffered to remain, but with some mark of distinction, as smaller type, to indicate their inferior certainty and merely subsidiary value.

This I shall carry out if my arrangement of *Belladonna* ever attains to publication. In the mean time I may state, for those who use Hempel's translation, that if the above conclusions are warranted, sympt. 46, 174, 175, 272, 275, 303, 379, 382, 415, 416, 417, 614, 615, 904, 909, 910, 916,

* Dr. Russell (*Clinical Lectures*) quotes Sympt. 1322 as contributing to the evidence for the homœopathicity of *Belladonna* to epilepsy. But this also ("with a sudden cry, he trembles in the hands and feet") occurred in one of Greding's epileptics.

917, 921, 968, 1071, 1072, 1082, 1089, 1113, 1114, 1115, 1116, 1322, 1338, 1339, 1342, 1343, 1351, 1358, 1359, 1360, 1373, 1374, 1375, 1376, 1377, 1413, 1419, 1437, 1438, are to be expunged.

2. The next author I shall mention is *Sauter*, as from him twenty-five symptoms are taken, many of which are very marked. If the source were a pure one they would be of great value. But what shall we say when we find that the article from which they are taken is entitled, "*Cure of Hydrophobia when fully broken out by Belladonna*"? (*Hufeland's Journal*, vol. xi). What can be the worth of a proving conducted upon a patient actually in the paroxysm of hydrophobia? The fact has only to be stated to condemn the whole proceeding. Nevertheless, as we have one of the two cases at hand (it is translated in *Hempel's Materia Medica*) it may be as well to transcribe it as another instance of Hahnemann's manner of selecting symptoms. I have italicised and numbered the portions he has cited.

A woman who had been bitten some time previously by an apparently rabid dog, lost a daughter from hydrophobia. Two days after her daughter's death, "on December 15th, at 3 o'clock in the morning, after a restless night, she was attacked with tightness and anxiety on the chest, a feeling of fright, sudden starting from sleep, shrill screams, dryness in the throat, tight feeling in the head, disposition to vomit, &c. These phenomena increased in intensity. At six o'clock the patient attempted to go to church, but had to return home again on account of sickness at the stomach. Dr. Sauter saw her first at 7 o'clock. The face was somewhat reddish, her expression frightful, intense, wild; *eyes suffused, keen, restless* (301);* pupils contracted; tongue dry and clean; neck bloated. All the muscles of the body were constantly twitching, the breathing hurried and suffocating, the chest heaved violently, the abdomen had the natural size. She pulled everything that she could lay

* Sympt. 301 is rendered by Hahnemann "Die Augen sind roth, glänzend (gläsern) und drehen sich im Kopfe herum." Sauter's words are simply "Die Augen röthlich, scharf und unruhig." But I can find no other phrase in his paper corresponding more closely to Hahnemann's rendering.

hold of towards her ; was still rational, but *attempted to escape* (1435). She frequently jumped out of bed suddenly, her voice was hoarse, and she found it difficult to articulate ; pulse small, rather hard and contracted. The spot on the hand where she had been bitten, and where only a small elongated cicatrix had been observed, was bluish, somewhat swollen, and painful. A few days previous she had said that, ever since she was bitten, she had experienced a peculiar pricking stinging sensation in the part, which sometimes looked blue and at other times red, and for some time back had been without any feeling. *Her arm felt as if torpid* (905 ?).^{*} She complained of dizziness, great dryness of the mouth without actual thirst ; she was still able to drink water, but with difficulty. At 8 o'clock the patient was given eight grain of the powdered leaves of *Belladonna* at one dose. Half an hour afterwards the dryness in the throat became more violent, and afterwards increased continuously. *In the whole arm she experienced a feeling of constriction, and violent stitches seemed to dart from the wound* (905 ?).^{*} *The face became bloated, purple* (191), and *the skin of the face looked thick as if an eruption would break out* (192). *The skin of the whole body itched, and about noon red spots made their appearance* (1274). The pupils, which had been contracted heretofore, dilated from hour to hour, until *the patient saw all objects indistinctly and multiplied* (292). The dryness of the throat increased ; however, she was able to swallow a quantity of water in order to quench her thirst. The pulse became fuller, longer, and towards evening violently throbbing. *She passed a good deal of urine* (749). Her restlessness was very great, her gestures looked wild and frightful. Every muscle seemed to be in continual motion, partly voluntary contortions and partly involuntary spasms. Every instant the patient tried to jump out of bed, *tore the bed-clothes, attempted to bite, spit* (1427), and *grasped violently at everything near her, then started back in great fear* (1379), uttered unintelligible sounds, was delirious, though she

^{*} Sympt. 905 is "arm as if numb and painful." It seems made up of these two sentences.

seemed to recognise some persons and objects. In the meanwhile the bitten hand became blood-red and burning. *At four in the afternoon a copious perspiration broke out over the whole body, which continued till midnight* (1801). During this time the constriction and anxiety on the chest gradually decreased. After midnight the redness of the face and hand became less, the head was less embarrassed, and the patient fell into a sound sleep. Next day she was tolerably quiet, the bitten hand was no longer red, only swollen; this swelling disappeared towards evening. After 1 o'clock in the night another paroxysm of rage broke out. Ten grains of the root of *Belladonna* were now given; the same phenomena that were observed after the first dose manifested themselves, except with more intensity. On December 19th a third paroxysm set in,* which was much less violent than either of the two former; she took twelve grains of *Belladonna*, and the paroxysm terminated like the preceding ones in general perspiration."

It appears from the above that not only has Hahnemann given us some of the most characteristic phenomena of the hydrophobic paroxysm (as s. 1427) as effects of *Belladonna*, but he has, with incredible carelessness, admitted into his schema two, if not three, of the patient's symptoms existing before the drug was administered. Comment is needless. All Sauter's symptoms must be struck out of the *Materia Medica*. They are Nos. 51, 191, 192, 292, 301, 339, 749, 905, 1181, 1212, 1267, 1271, 1272, 1274, 1278, 1300, 1301, 1349, 1379, 1411, 1412, 1418, 1427, 1435, 1440.

* Hence, I suppose, Sympt. 1181, "Febrile disturbances every other day."

(To be continued.)

EXPERIMENTAL RESEARCHES ON THE NATURE
AND CAUSES OF CATARRHUS ÆSTIVUS (HAY-
FEVER, OR HAY-ASTHMA).

By CHARLES H. BLACKLEY, M.R.C.S. Eng.

(Continued from page 678, Vol. XXX.)

CHAP. VI.—ON THE SYMPTOMS AND NATURE OF HAY-
FEVER (*continued*).

§ 279. In the experiments alluded to in my last paper the instrument shown at Figs 5, 6, and 7 was used. Three trials were made at different periods of the day: in the first trial 500 inspirations, made in thirty minutes, whilst the operator was perfectly still, gave a deposit of 115 pollen grains on a space of one square centimètre. During the same time thirty pollen grains were deposited on the glass placed in the instrument shown at Figs. 8 and 9. In another experiment, in which the operator was walking at the rate of two miles per hour, 500 inspirations gave 140 pollen grains; whilst in the same space of time twenty-eight were collected on the glass placed on the vane (Figs. 8 and 9). In the third experiment 1000 inspirations, made whilst the patient was walking at the rate of three miles per hour, gave a deposit of 253 pollen grains. During the same time the glass placed on the vane gave fifty-eight only.

In these three experiments we have a total of 508 pollen grains obtained by 2000 inspirations: in these the air was made to pass over a space of one square centimètre of the prepared glass at a rate varying from seventeen to twenty-eight respirations per minute, each inspiration taking in from thirty to forty cubic inches of air. The total of the deposits obtained on the slides placed on the vane was 115. Comparing these quantities we find that we have 4·4 pollen grains inhaled for each one that is deposited on the glass.

§ 280. If we institute a similar comparison to that made in the deposits obtained in the ordinary way, we find, in this

case, that the difference between the quantity of pollen inhaled whilst in a state of rest, and during violent exercise, is very considerable. Ten hours passed in the open air in a state of rest would give a deposit of 2300 pollen grains; but if we suppose that three times the quantity would be inhaled during violent exercise the number would be 6900; or in other words we should have an extra deposit of 4600 on the same space of mucous membrane. This number is rarely, if in any case, reached, because it seldom happens that a patient passes ten hours consecutively in the open air, and very rarely does it come to pass that violent exercise is taken for so long a period. In proportion, however, to the amount of exercise taken and the length of time passed in the open air during the period the grasses are in flower, so will be the approach to the results here given; and if we make an exact estimate of the difference between the number of respirations and the volume of air taken into the lungs, during active exercise and in a state of rest, we shall find that the percentage of increase given above, large as it is, will be rather under than over the mark. The inevitable consequence of this must be that exercise in the open air must, during the hay-season, increase the severity of the attacks of hay-fever.

§ 281. The symptoms caused by the contact of pollen with the lining membrane of the pharynx are itching and slight burning or pricking; with these there is sometimes a sensation as if there was a thin film of some delicate substance stretched across the pharynx in places. Occasionally there is a little hoarseness, but this is not often present. The itching is generally felt to be very severe in the upper part of the pharynx and in the Eustachian tube; and not unfrequently it extends to the meatus externus. Sometimes there is slight dulness of hearing, but this may be so slight that the patient will scarcely notice it unless his attention is specially drawn to the circumstance. Deglutition is very rarely interfered with, but there is occasionally a sense of dryness and obstruction in the throat on awaking in a morning.

If we examine the throat in the earliest stage of the

disease very little change will be seen, but later on there may be redness and swelling of the mucous membrane. There is also in the daytime a little extra secretion going on, and especially when the attack is getting near to its highest point of intensity; but, as I have before intimated, this is so intermixed with the ordinary glandular secretions that it is difficult to arrive at any precise notion of its quantity or its character. And on account of the tendency there is for the effusion in the submucous tissue to diffuse itself, it is not easy to distinguish it or to say whether it is much or little. The throat symptoms, like those of the buccal cavity, to which indeed they really belong, vary much in intensity in different individuals; they may in a few cases be somewhat severe, but generally they will be very mild.

§ 282. When pollen is brought into contact with the eye the phenomena exhibited are very marked, and in one of its symptoms very characteristic of its mode of action. Generally, however, these show themselves later than the other symptoms do; the reason for this I shall refer to presently.

In addition to phenomena of a purely physiological character we have also some which are due to mechanical irritation. Whilst the quantity of pollen is small the ordinary fluid secretions of the eye will be sufficient to clear it away by the natural channel—the nasal duct—just as they do other foreign matters deposited by the atmosphere. When, however, the quantity of pollen becomes large it will not be so readily cleared away, and a portion will get between the ocular and palpebral layers of the conjunctivæ, and thus severe irritation may be set up; and this will be all the more likely to be the case after the patient has been out in a tolerably strong wind during the height of the hay-season. The difference between the quantity of pollen inhaled and that which is thrown against the eyeball by the force of the wind, may be judged of by the results of the experiments just quoted. In one sense it is a fortunate thing for the patient that this difference does exist, for if the same quantity of pollen that is inhaled came in contact

with the eyeball his condition would be almost unbearable. This difference will, however, account for the fact that the eye symptoms are generally later in showing themselves than are the nasal symptoms.

§ 283. In the eyes, as in the other regions, the first symptom of a commencing attack is itching. At first it is very mild, but as the hay-season progresses it is more distinctly felt and soon becomes very troublesome, and is frequently attended by a slight burning sensation, which extends to the deeper parts of the eyeball. When the disease is fully developed the lachrymal canals and nasal ducts become almost entirely closed by the swelling of their submucous tissue, but I have never been able to decide whether the irritation which causes this occlusion commences above or below, or, in other words, whether it is caused by the pollen which passes down the nasal duct from the eyeball, or by that which is deposited in the nostril in the process of respiration. It is, however, probable that both causes operate to produce the effect, and it is also probable that some portion of the derangement is due to the reflex action of the irritation which is set up in the nasal passages. At whichever point it commences the effect is the same, namely, a partial or total occlusion of the nasal ducts, and, as a consequence of this, a constant tendency to lachrymation; but there is no doubt that the secretion of the lachrymal gland is also increased by the presence of pollen on the surface of the eyeball.

§ 284. A short time after pollen first comes in contact with the eye the conjunctival vessels become injected, and generally the larger capillaries show the first, but occasionally when the patient has been much exposed to the wind whilst the quantity of pollen in the air is large, the anterior surface of the eyeball may be covered with a pale crimson or pink tinge from congestion of the smallest capillaries. After a time the itching and burning become so troublesome that the patient finds it difficult to resist the temptation to be constantly rubbing the eyes, but the relief this gives is very transient and, in the end, adds much to the irritation. Occasionally shooting pains of a neu-

ralgic character are felt in the back part of the orbit and in the eyeball, and when the attack has been very severe or long continued slight chemosis may be seen; generally, however, this latter symptom will only be seen in certain cases, and then only when the quantity of pollen in the air is at its maximum. In very severe attacks also the eyelids become œdematous, and this is often more observable in a morning than it is in the latter part of the day, but in some cases this condition will be seen at all parts of the day.

§ 285. When the disorder has lasted some time there is often a little photophobia present, and this may be sufficiently severe to cause the patient to seek the shade rather than the broad sunlight. In my own case, however, I have never found it necessary to remain in a darkened room or even to avoid a moderate degree of sunlight. Even after being exposed to the action of pollen and strong sunlight for six or eight hours in the day, and when, as a consequence, the conjunctivæ have been very much congested, I have frequently worked at the microscope for two or three hours in the evening without causing any additional irritation or inconvenience. In this case as in every other I found that if I could get beyond the reach of pollen the symptoms, whatever they were, were sure to improve. I have also in my own case sometimes thought that for a short period at the height of the disorder the sight has been obscured as if from an alteration in the normal convexity of the cornea, but when tested by placing small print before the eyes I have never been able to discover any marked alteration in the focal distance at the time the test has been used.

§ 286. The eyeball and its appendages seem to be as sensitive to the action of pollen as is any organ with which it comes into contact, and if the irritation in the eye was to be kept up by a large quantity of pollen being constantly applied, it is highly probable that mischief to the deeper seated structures would be the result; but what would be the nature and extent of the derangement it is not possible at present to say. In ordinary attacks of hay-fever the

mischievous seems not to extend beyond the subconjunctival cellular tissue. In no case have I ever seen any sign of effusion between the layers of the cornea, nor have I ever seen the sclerotic coat to be affected; although I think it is quite possible that it may be in some cases.

The discharge which comes from the eye, like that which comes from the nostrils, is at first thin and watery, and no doubt largely consists of the secretion of the lachrymal gland. After a time, however, it becomes more inspissated; and although it rarely happens that it contains any considerable quantity of pus, this may sometimes be the case; and often when the effused fluid seems to the naked eye to be tolerably transparent, by the aid of the microscope pus-cells may be detected in it.

§ 287. When once the quantity of pollen in the air has got to its maximum and begins to decline, a very marked change in the condition of the eye will soon be seen. The improvement will not, however, always be steady and gradual; but like all the other symptoms of hay-fever will be influenced by the sudden changes in the quantity of pollen. There will at times be a rapid improvement; the congestion of the conjunctival vessels will quickly lessen; the itching and burning will subside and the œdema of the eyelids will disappear. Often, however, the patient, who thinks he is becoming rapidly convalescent, finds that, after a few days of improvement, a relapse comes on; but there is this peculiarity in the attacks which occur in the latter part of the season (from the latter end of June to the beginning of August*), namely, that they rarely attain to the same degree of severity they have in what I call the ascending part of the scale.

§ 288. The last symptoms to disappear are the œdema of the eyelids and the chemosis (when present); but the changes above alluded to do not take place in the same order nor in the same time in all cases, but after the patient gets entirely from under the influence of pollen the improve-

* This remark applies, of course, only to the part of the country where my experiments have been made: more south the time will be earlier, and more north later.

ment will be comparatively rapid. The experiment cited at § 186 shows that even after the disturbance had been much more severe than it is in an ordinary attack of hay-fever the congestion had almost disappeared, at the end of eighteen hours, and that after thirty-six hours had elapsed all traces of the derangement were gone. A single night, even in the height of the disease, will in most cases bring about some improvement, for the simple reason that during the night time the patient does not come in contact with pollen, and in this way it may seem to some that the disease has somewhat of a remittent character. Taking the eye symptoms as a whole I believe they disappear rather sooner than the nasal symptoms; that is to say, the nasal mucous membrane is longer in recovering its healthy condition than the conjunctiva is, but in this respect as well as in others there will be some little difference in different cases.

§ 289. Dr. Phœbus and other writers speak of very decided head symptoms which the former places in a separate group. So far as I have observed, there are few symptoms of this kind which cannot be referred to one of the other groups. There are occasionally shooting pains in the head, but I think these are, in character, closely allied to the neuralgic pains I have mentioned as occurring in the eyeball and orbit. I have never seen any symptoms which had the appearance of being caused by congestion of the meninges of the brain or of the brain substance. There is in some cases a considerable amount of tinnitus aurium: what the exact cause of this is I have never been able clearly to make out; but I do not think it is caused by derangement of any part of the nerve centres. It is probably due to irritation of some portion of the tympanum or membrana tympani, or possibly to reflex action. The neuralgic symptoms commonly depart with the other symptoms, but the tinnitus may remain for some weeks or even months.

§ 290. The asthmatic symptoms of hay-fever are by far the most important of any of the groups because they are the most troublesome and the most dangerous. Like all the other derangements caused by pollen, they vary in

intensity in different individuals and in different seasons. In some cases there is only a very slight sense of obstruction in the breathing; in others the derangement may cause great suffering and at times may seem to endanger life. The symptoms are, as I think I shall be able to show, due to the obstruction caused by the altered condition of the submucous cellular tissue of the larynx, trachea and bronchial tubes, for effusion into the connective tissue of any one of these will give rise to the asthmatic symptoms, and it is exceedingly difficult to decide which has the greatest share in producing these.

In many of its symptoms hay-asthma closely resembles ordinary asthma, and unless we know the exact history of the case we may be investigating, we shall find it always difficult and sometimes impossible to decide which species the case belongs to. In both there is the same sense of tightness across the breast at the commencement, and as the disease advances there is the same loud wheezing and slow inspiration and expiration. There is also at first dry cough or cough with scanty expectoration in both forms of the disorder, and as the breathing becomes more and more difficult the face may be pale and anxious looking. If the dyspnœa still increases, in both phases of the disorder the face will become livid and turgid, the patient will seem as if threatened with suffocation, and will try to fix himself in such a position that the respiratory muscles can act with the greatest vigour, and this will almost invariably be in the upright position, with the arms and hands firmly fixed on some article of furniture. In both cases too the voiding of a thin frothy sputum may be one of the first signs of approaching relief, but this latter is not so much the case in hay-asthma as it is in ordinary asthma.

§ 291. There are, however, some points in which the two disorders differ, and which it is important for us to notice. In ordinary asthma the attack usually comes on in the night, and is often preceded by a long-continued fit of dyspepsia. In hay-asthma the first attack of the season generally comes on in the daytime, and although disorder of the stomach may be present and may help to make the malady more

severe when it does come on, it is usually quite independent of dyspepsia. In hay-asthma the attack may and often does come on in the open air, but in ordinary asthma it generally comes on in the house. In the one case the occurrence of the disease is entirely dependent upon the inhalation of pollen; in the other it is, so far as we know at present, entirely independent of it. And again, unless the patient is brought accidentally into contact with pollen, hay-asthma only comes on during the hay-season, whilst ordinary asthma may come on at any time of the year and is most common in winter.

There is also another important difference between the two forms of the disorder. In ordinary asthma there are paroxysms with intervals of perfect freedom, at least in the early and less confirmed state. In hay-asthma this scarcely ever occurs in so marked a degree as in ordinary asthma; there may be remissions and sometimes even distinct intermissions for short periods, but the tendency is for the disorder to continue with more or less severity during the whole of the hay-season. And lastly, if coryza does accompany an attack of common asthma it is rarely as severe as it is in hay-asthma, and we scarcely ever see the conjunctivæ affected as they are in the latter disorder.

§ 292. In some instances the coryza and eye symptoms may show themselves before any difficulty of breathing is noticed, but occasionally the reverse may be the case; frequently, however, they will come on together. The first symptom of an asthmatic attack will most commonly be the sense of tightness and weight across the chest of which I have previously spoken. In most cases the cough will at first be dry, or if there is expectoration this will be but scanty. In some few instances, however, it may be copious from the commencement, and if this is the case the dyspnoea does not generally become so severe as it is when the expectoration is scanty.

In the early stage of the disorder the difficulty of breathing is not very great, and if the patient lives in the centre of a large town he will often escape with comparatively little suffering unless he comes accidentally into contact with a

large quantity of pollen. In cases where the patient is extremely susceptible to the action of pollen he may have the symptoms pretty fully developed even in a large town, but this is not often the case.

§ 293. When the disorder is at its height and when the susceptibility is very marked the patient will have most of the severe symptoms described above ; and in some instances the dyspnœa becomes so urgent if the recumbent position is assumed that for several nights in succession he will not be able to lie down. In one case I have had under my care the dyspnœa was so severe in the early years of the attacks that the patient had to sit up for twelve or fourteen nights in succession during the hay-season. At this time the patient (a lady) lived in the country : at the present time she lives in a thickly populated suburb of Manchester, and although she has an attack of hay-fever every summer the dyspnœa is never very severe.

Generally the obstruction to the breathing attains its maximum degree of severity during the night, but may be somewhat severe during the latter part of the day after the patient has been inhaling pollen for some hours. It will, however, often vary in an apparently unaccountable manner. The reason for this variation I shall allude to presently.

§ 294. The sputa will at first be thin and frothy, and may or may not be got up with difficulty. If the quantity of pollen should rise by a sort of regular progression the sputa will gradually increase, but not always in the same ratio. In the discharge from the nares the quantity seems to be governed by the quantity of pollen inhaled ; it is not so, however, in the asthmatic phase of the disorder. The reason for this difference I have never been able satisfactorily to make out.

There is also another change which occurs in the discharge from the nares in a much more marked degree than it does in that from the trachea and bronchial tubes. In the declining stage of the disorder, or even when the quantity of pollen becomes suddenly lessened for more than a couple of days, there is a marked tendency for the dis-

charge from the nostrils to become puriform; but if by chance the patient becomes again exposed to a large quantity of pollen the discharge of thin serum will commence again and will be mingled or alternated with the muco-pus. In the asthmatic form of the disorder the same thing is seen, but by no means to the same extent, and very often some portion of the sputa will come up in the shape of small pellets of semitransparent starchy-looking material.

§ 295. I have shown at § 234 that at times the granular matter of the pollen escapes from the pollen sac and floats in the air as free granular matter. I have reason to believe that when this is the case this matter will, when inhaled, penetrate much farther into the bronchial tubes than the entire pollen grain will, and that it causes less catarrh but more severe asthmatic symptoms than the pollen does. I have never, for obvious reasons, been able to demonstrate this very clearly, and can only therefore give it as an opinion which I have not as yet been able to verify; but if the opinion is correct it will help us to account for the differences we find in the severity of the asthmatic symptoms at various times, and which the quantity of pollen in the air does not always quite account for.

The duration of these symptoms will be found to differ much in different cases, and although a rapid improvement may often take place up to a certain point, some degree of obstruction in the breathing is apt to remain after most of the other symptoms have disappeared, and I believe that this is more likely to be the case when free granular matter has been inhaled than it is under other circumstances. So much, however, depends upon accidental conditions, of the precise nature of which we have not yet a full knowledge, that no rule can, at present, be laid down.

§ 296. The cough varies in character and severity in different individuals as much as any other symptom; in some cases it may be dry and spasmodic, and at the same time very troublesome; whilst in others it will be moist and will give comparatively little trouble. In some instances it is most severe in the daytime, in others in the night; and as I have before stated is attended with a varying amount

of expectoration, the quantity of which seems to depend more upon the susceptibility of the mucous membrane to the influence of pollen than it does on any other circumstance; that is to say, changes of temperature, or a dry or moist condition of the atmosphere, do not seem to have much influence upon the quantity which is voided.

The condition of the urine in attacks of hay-fever has not been examined sufficiently often to permit precise statements upon it to be made. By some it is said to be quite clear and in every respect natural and healthy looking during an attack; by others it is said to be high coloured and to leave a sediment on standing.

§ 297. The general symptoms of hay-fever are differently stated by different authors. As it rarely happens that all that may occur are present in any one case this may account for the different statements made. In some instances they are almost entirely wanting, and I cannot but think the symptoms described by some patients have been due to influences which have no connection with hay-fever. When general symptoms are present they are partly due to derangement of the nervous system and partly to a disturbance in the circulation. Amongst those due to the former cause are low spirits, gloomy forebodings, a dislike to mental and physical exertion, with a feeling of relaxation and weakness. In some cases there are pains of a neuralgic or rheumatic character in various parts of the body such as I have already alluded to as occurring in the eyeballs, orbit, and within the cranium.

In the experiments cited at §§ 138 and 139, when the arm and leg were inoculated with pollen, no pain was felt; but in some experiments subsequently tried sharp neuralgic pains were felt in the thumb and index finger of the limb operated upon and also along the course of the radial nerve.

§ 298. Dr. Phœbus says, "Dr. Cornaz mentions a lady who felt such violent pains, resembling those of rheumatism, that she was obliged to keep in bed. These were felt first in the right abdomen, then in the chest, back, in the back part of the head, especially close to the ears, which symptoms

lasted the whole of the day and produced during the time a strong nervous tension in the head, back, and legs, with a difficulty of keeping the eyes open."

There is said to be a very curious state of the nervous system present in some cases where the imagination seems to be very powerful. In one case, quoted by Dr. Phœbus, the patient had an attack of sneezing with other symptoms of hay-fever "whilst looking at a beautiful picture of a hay-field." Another patient "on thinking of the disease and seeing his swollen face in the glass had all the symptoms."* I have myself never seen a patient with such extreme susceptibility of the nervous system as is here described, and can, therefore, only give these cases on the authority of the writers mentioned by Dr. Phœbus.

§ 299. A feverish condition, as I have previously intimated, is rarely seen in any but the asthmatic form of the disorder; except when produced artificially by inhaling pollen† or by inoculating with it, I have myself never had any feverish symptoms. When it does come on there is a frequent and full pulse, with more or less shivering; hot dry skin, with a bruised feeling in various parts of the body; sleeplessness from a crowd of ideas which will rush through the mind in spite of the patient's efforts to quiet himself and sink off to rest. These symptoms usually pass off with a profuse perspiration which may last for some hours. In the long and violent attacks of sneezing, which occur just before the hay-grass commences to be cut, the pulse will rise, the face will flush, and the respiration will quicken; but these symptoms are only temporary; in a few minutes at most they usually pass away, and do not reappear until the next paroxysm of sneezing comes on. A fit of this sort generally ends with slight shivering and with the patient being bathed all over with cold perspiration.

* *Der Typische Frühsommer Katarrh oder das sogenannte Heufieber, Hen-Asthma*, p. 30.

† In these cases it was only when the pollen of one of the Amentaceæ was used that feverish symptoms came on.

Although I have stated that feverish symptoms do not usually come on in the catarrhal form of the disorder, it is only right to say that I do not consider that sufficient evidence has yet been gathered on this point to enable us to say under what precise circumstances they do or do not come on. Not only is there a different amount of susceptibility in different individuals, but, if ever the matter is more closely investigated, different pollens will probably be found to have different powers in respect to the intensity of the feverish symptoms they may produce.

§ 300. Almost all authors agree in the opinion that hay-fever leaves no perceptible effects behind. It may disappear slowly in some cases, and in some it may terminate with a somewhat troublesome attack of diarrhœa, and in others by a fit of constipation; but after the disease has once fairly passed away no sign of organic change is seen in the parts which have been affected. The eye, which may be considered one of the most highly endowed and sensitive of all organs which are attacked, recovers its healthy condition almost as quickly as any, and never, so far as I am aware, exhibits any trace of organic change in any part of its structure. Even in those cases where the asthmatic attacks have been very severe, and after they have occurred periodically for years, emphysema of the lung, which is so apt to come on in the course of long-continued attacks of ordinary asthma, is rarely, if ever, seen to follow hay-asthma.

§ 301. Hay-fever is said to be made up of two principal forms of derangement of healthy action, namely, catarrh and spasm; the former affecting all the mucous membranes with which pollen comes in contact, the latter only the muscular apparatus of the bronchial tubes. Dr. Phœbus, when referring to the asthmatic form of the disease, calls it a "laryngo-bronchio-catarrh." This designation is the best that has yet been given. Catarrh the disorder undoubtedly is in all its phases, but as regards the existence of spasm in the asthmatic form, I think I shall be able to show that this is at least very doubtful, if

not impossible. To the consideration of this question I shall return presently.

In studying the nature of the disorder and in observing the changes which the affected parts undergo in its course, the question as to whether hay-fever is in any degree inflammatory naturally occurs. In considering this question we shall have to look at the mode in which pollen affects different tissues. Its leading and principal action is to produce effusion, but that this cannot always be considered inflammatory I think I shall be able to show.

§ 302. When a part is inflamed and "when liquor sanguinis is exuded it generally coagulates and constitutes a foreign body in the texture of the parts affected, which it becomes the object of nature to remove from the system, or so to modify that its presence may be rendered conducive to the wants of the economy. In order to accomplish this two kinds of changes may take place,—1st, the exudation serves as a blastema in which new vital structures originate and are developed; 2nd, it exhibits no power of becoming organized, and the exuded matters, together with the textures involved in them, die."*

In the experiments on the action of pollen on the skin, as we have seen, neither of these events came to pass. The effused fluid probably consists only of serum, and as it does not give rise to either pain, heat, or redness, and leaves no mark of its presence behind it after the exudation has been absorbed, it cannot be considered inflammatory in the proper sense of the term.

Serous exudation is said to be caused either by too great a pressure of the blood, by the want of the proper power of absorption by the lymphatics, by a watery state of the blood, or by an abnormal degree of porosity of the vessels. Since we cannot suppose that the effusion, in cases of hay-fever, is produced by any of the three first-named causes, we must believe it to be due to the abnormal porosity of the vessels.

It is a remarkable fact that when pollen is applied to

* *Clinical Lectures on the Principles and Practice of Medicine*, by John Hughes Bennett, M.D., F.R.S.E., Edinburgh, 1858, p. 133.

the abraded skin the capillaries of the corium—the part to which the pollen is directly applied—escape its action altogether, the whole of its power being concentrated on the capillaries of the cellular tissue underneath. *It is this power of dilating and causing exudation from the capillary vessels of the connective tissue that constitutes the great peculiarity in the action of pollen.*

§ 303. When pollen comes in contact with mucous membrane we have not only exudation into the submucous tissue, but also a largely increased secretion on the surface of the membrane and in its follicles; and I am inclined to think that the relative quantity of fluid poured out in these situations will vary according to the kind and condition of the pollen. In the effusion which occurs on the surface and in the effect which the effused fluid has we have phenomena of a totally different character to those seen in the skin.

When fresh pollen is applied to the lining membrane of the nares its first effect, as I have before stated, is to produce itching; this is rapidly followed by sneezing and discharge of serum. The first contact of pollen with the Schneiderian membrane does not, so far as my experiments upon myself enable me to decide, seem to produce any inflammatory action; it is only when the discharge of serum has gone on for a time that redness and excoriation are seen. It is true that a different effect is seen when pollen is applied to the eye, but this, I think, is, as I have before intimated, partly due to mechanical irritation. If it was possible to apply pollen to the mucous membrane of the nares without producing a discharge of serum, I believe that, although we might have sneezing and also infiltration into the cellular tissue, we should have little or no inflammatory action. I have, on two or three occasions, been able to produce effusion into the submucous tissue by the application of pollen which had been reduced to a pulp by being rubbed up with water, but in these cases there was little or no sneezing at the commencement, and scarcely any discharge from the nostrils, whilst at the same time there was neither redness nor excoriation seen in any of the experiments. It is, however, only

right to say that my examinations and experiments on this point have never been made in any case but my own, and cannot therefore be considered sufficient to decide the question. But whatever may be the effect which pollen has in the majority of cases when first applied, there can be no doubt about the effect which a constant discharge of fluid has upon the mucous membrane and skin over which it passes.

§ 304. The exudation in the nares at first consists of a thin serum, which contains a large number of minute granules: these may generally be seen to have a vigorous molecular motion. Some part of the molecules are, no doubt, derived from the pollen grain. Interspersed with these are a number of bodies which to me look like enlarged free nuclei from pus-cells. In some of these the outline is irregular, as if there was some attempt at division, but in others the outline is circular. If dyed (on Beale's method) with an ammoniacal solution of carmine, or, better still, with a weak alcoholic solution of chloride of aniline, they are very distinctly seen on account of the avidity with which they seize upon the colouring matter; in this respect they closely resemble the nuclei of pus-cells. After the exudation has continued for a short time, cells which are not easily distinguished from the white cells of the blood are intermingled with the nuclei. Still later perfect pus-cells are present, but these are at first very few in number. In the earliest stage epithelial cells may be seen here and there, and generally these are of the ciliated kind.

After the irritation has been kept up for a length of time by the constant inhalation of pollen, very few cells of any kind will be seen in the effused fluid, the principal ingredient being the granular matter of which I have just spoken. It should be observed, however, that a single drop of the exudation will make three or four microscopic cells—each containing 700 or 800 “fields”—and that, as the character of the exuded fluid varies at different parts of the day, it would require a much greater amount of time than I could spare to enable me to say definitely what its constituents are.

§ 305. When the pollen in the air begins to diminish the number of pus-cells in a given quantity of the effusion increases, but whether it is because they are formed more rapidly, or because they are carried away less rapidly by the diminished discharge, it is impossible to say, but certain it is that, relatively to the amount of the discharge, they continue to increase until the patient becomes nearly well. It is a singular circumstance, too, that in all my examinations of the effused fluid by the microscope I have seen very few perfect pollen grains; and compared with the number inhaled, very few empty pollen sacs. Whether this must be attributed to the solvent power of the serum, or to the fact that they are to a large extent carried away by it, cannot be determined; but if I had depended upon my examinations of the exuded fluid for a knowledge of the exciting causes of hay-fever, I should have been a long time in getting any clear notion of their nature.

§ 306. The condition of the mucous membrane of the nares during attacks of hay-fever is not very easily ascertained, because that part of it with which the great bulk of the pollen comes in contact is out of sight, and probably this particular part is that which is most sensitive to its action. The part that can be seen is not at first reddened, but, as I have before observed, when the discharge has continued for a time, a diffused blush of redness may be seen, and if the quantity of pollen increases, the redness and irritation may increase until the membrane becomes very tender to the touch, from the fact of its being partially denuded of its epithelium, and also from the circumstance that the membrane itself becomes swollen and inflamed. It is said that in severe attacks of common coryza flakes of epithelium may often be found in the effused fluid. It is not the case in catarrhus æstivus, so far, at any rate, as my examinations have enabled me to decide. The quantity of the fluid effused and the length of the time that this comes away are such that it would take an enormous quantity of epithelium if only a very small amount must be present in each portion of the exudation. No doubt epithelium is formed and carried off again in some stages of

the disorder, but I do not think it ever comes away in the form it is said to do in ordinary catarrh.

§ 307. When pollen ceases to be inhaled the mucous membranes soon take on the healing process ; in mild cases this will be very rapid, but in cases where there has been considerable swelling and inflammation of the substance of the membrane, the change to the normal condition will be comparatively slow, and will be much the same as is seen in severe cases of ordinary catarrh. I have sometimes thought that, when the mucous membrane of the nares has been inflamed from continuous exposure to pollen for some time, a slight exposure to change of temperature from heat to cold has made the symptoms much more severe for a time. It is, however, very difficult to say when such an exposure does increase the suffering from summer catarrh, because in the latter stages of this disorder we have no means of distinguishing it from ordinary catarrh, and after the attack has passed away there is, in the condition of the mucous membrane of a hay-fever patient, nothing to show that the part has been affected, nor yet to indicate that the susceptibility still remains.

§ 308. One part of the effect produced by pollen is due to its direct action, and another to its indirect or reflex action. The discharge of serum in the nares is an example of the first kind, whilst the effusion into the subcutaneous cellular tissue is an example of the second kind of action. In the congestion of the vessels of the conjunctiva we may have both kinds of action. The reflex mode of action may be exhibited by any irritant being applied to the mucous membrane of the nostrils ; every aurist knows that the introduction of the catheter to the Eustachian tube will give rise to a flow of tears and to congestion of the conjunctival vessels, and I have frequently seen the application of pollen to the nares produce slight redness of the eyeball, but this has generally been when a tolerably large quantity of pollen has been applied. Another way in which reflex action may manifest itself is when the irritation in the nostril is transferred to the bronchial tubes and produces slight asthmatic symptoms ; this also I have experienced on two occasions.

§ 309. Almost every writer on hay-fever has attributed the dyspnœa which occurs in the asthmatic form of the disorder to spasm of the circular muscles of the bronchial tubes. That this is at least very doubtful I think I shall be able to show.

If we breathe through a tube which has the same diameter as the trachea we find that air enters the lungs freely, and that there is apparently a certain amount of surplus space in the tube. This is proved by the circumstance that we can breathe through tubes of a much less diameter than that of the trachea without producing any unpleasant difficulty of breathing. If, instead of using a single tube the size of the trachea, we use two tubes the diameter of the bronchial tubes which form the first division of the trachea, we find the same rule holds good. If we carry the experiment still further and use tubes of a gradually decreasing diameter, we find that to bring on the amount of dyspnœa which occurs in hay-asthma, tubes of a very small diameter would have to be used, and that consequently if such a diminution in the size of the bronchial tubes is brought about, the circular muscles must act with a force which they cannot reasonably be supposed to possess.

The free transmission of air through the trachea and bronchial tubes is the one prime condition necessary to the proper fulfilment of their function, and even if we grant that the circular muscles have some power it is difficult to understand what purpose they could serve if they could contract the bronchial tubes down to a diameter sufficiently small to produce the dyspnœa of hay-asthma. But, whatever may be the end these circular muscular fibres are destined to serve in the economy of respiration, I am satisfied they have nothing to do with the dyspnœa of hay-asthma.

§ 310. I have shown that the peculiar and distinctive action of pollen is seen in the œdema which it produces in the cellular tissue of any part to which it is applied. This I believe is the true cause of the dyspnœa of hay-asthma, and I am also inclined to think that when all the phenomena of ordinary asthma have been thoroughly investi-

gated a similar condition will be found to be the cause of the dyspnœa in the latter disease also. How, then, are we to account for the sudden diminution which sometimes occurs, in the severity of the dyspnœa in hay-asthma—the so-called relaxation of the spasm? I will endeavour to answer this question. It has been seen that one of the most marked symptoms of the catarrhal form of hay-fever is closure of the nasal passages by the effusion of fluid into the submucous tissue, and that at times the occlusion has been so complete that no air whatever could be drawn through the passages. So complete has the stoppage sometimes been in the experiments described that if respiration could only have been kept up by the air which could be made to pass through the nasal apertures, death from asphyxia must have been the result.

§ 311. In those instances in which partial occlusion occurred it was only necessary to attempt, for a time, to breathe through the nares in order to produce the true asthmatic condition, so far as the dyspnœa is concerned. How, then, is the relaxation of the so-called spasm brought about? I have shown that when a patient has been in a recumbent position for a time a change from one side to the other would close the nasal aperture on the lower side, and at the same time open the upper one; but, curiously enough, if the patient placed himself on his back when the passage of fluid from one nostril to the other was only half completed, the closure of both would be almost complete, and in this state he would find it impossible to pass sufficient air through the nostrils to keep up healthy respiration. I have again and again tried the experiment of attempting to breathe through the nostrils only when they have been in this condition, and have always found that I could produce all the distress of a true asthmatic attack by keeping up the experiment for a few minutes only.

§ 312. The same swelling of the submucous tissue is present in the larynx and trachea, and probably also in the larger bronchial tubes,* and we have only to suppose that

* It is not probable that any great quantity of pollen penetrates to the smaller bronchial tubes, because, if this was the case, such an amount of

the same changes which occur in the nares take place in the larynx or at the bifurcation of the trachea, and we have all the conditions necessary for the production of a fit of asthma, apparently by spasm, and for its relief by the so-called relaxation.

Then again exacerbations of an asthmatic attack very often occur in the night; and sometimes when the day has been comparatively free from difficulty of breathing a sudden attack may come on in the night. This also I believe is often due to a change in the position and quantity of fluid in particular parts of the cellular tissue of the air passages, nor do I think it always necessary for the bronchial tubes themselves to be affected in order to produce an asthmatic attack. If the fluid in the cellular tissue of the buccal cavity and pharynx should gravitate towards the larynx and upper part of the trachea, this, in addition to the fluid which may already be present in these parts, would be quite sufficient to bring on severe dyspnœa. Such an alteration as that described above would be most likely to occur after the patient had placed himself in the recumbent position.

§ 313. In support of the above opinions it may be observed that position is with an asthmatic patient a very important condition. In some mild attacks of hay-asthma produced artificially I found that an alteration in the position always produced a change in the breathing which was better or worse according to circumstances. Knowing that such alterations must cause an accumulation of the effused fluid in certain spots, it is easy to see that this may give rise to dyspnœa which will vary in severity and duration according to the quantity and position of the fluid. But if spasm is the sole cause of the dyspnœa it is difficult to perceive how position can affect it in the way it does.

In putting forth these opinions I am aware that I differ from most of the writers on hay-fever, but it is only after long observation and close study of all the phenomena I have endeavoured to describe that I have been led to these conclusions.

œdema would be produced that fatal consequences must often speedily ensue.

§ 314. Hitherto the disorder has had a name applied to it which was adopted when it was supposed that the emanation from hay, in the process of being made, was the principal cause of it. We have seen that wherever flowering plants can grow in sufficient numbers to throw off a large quantity of pollen, hay-fever may be produced. Would it not therefore be better to designate it by the name of the agent which is known to produce it in every country in which it has yet been seen, namely, by the terms *pollen catarrh* and *pollen asthma*?

In suggesting this name as well as in describing the investigations I have made on this subject, I have been desirous of strictly confining my attention to the phenomena of the disorder which is brought on by pollen. There may be, and probably are, other agents which may produce symptoms not unlike those of hay-fever, but it has often occurred to me that it is better to concentrate our attention upon causes within our reach rather than to allow it to be dissipated by extending our investigations over too wide an area; I have done so in this case, and have not had any cause to regret the course taken.

§ 315. The treatment of hay-fever has been spoken of by some authors as being, in their hands, very successful. I regret to say that in my hands it has been very unsuccessful; nor have I ever met with a case in which I could feel sure that the administration of remedies had really produced a cure. It is true many cases are given by authors where the use of certain remedies seemed to be followed by an improvement or by a cessation of the symptoms, but in most of these cases I am convinced that the cure was due to the patients' removal beyond the reach of the cause or to the gradual diminution in the quantity of the latter. In the early part of my yearly attacks I have frequently made the same mistake, and, with the light that the experiments described in the preceding pages have thrown upon the natural history of the disease, one cannot help feeling somewhat humbled by the recollection of the ready manner in which we are sometimes led to adopt *post hoc ergo propter hoc* conclusions.

§ 316. For some years after I first began to suffer from hay-fever I tried a great number of remedies; amongst these were baths in various forms—the vapour bath, the hot-air bath, as well as the plunge and the shower bath—but none of these seemed to be of the slightest use; and, as far as I can now remember, I was using the plunge bath regularly at the time the disorder first came on. I also used a variety of remedies in the shape of drugs. These were used in various doses: some of them, even when taken in very small doses, produced effects which made me glad to put up with the annoyance occasioned by the yearly recurrence of the disorder. *Quinine* was a medicine of this sort, as were also, to a slight extent, *Arsenic* and *Nuxvomica*. But no drug that I have ever tried, either upon myself or others, has seemed to be productive of any permanent benefit; the only thing I have succeeded in doing with drugs has been to palliate, and then always by local application; such as, for instance, the application of an ointment of extract of *Belladonna* or of *Opium* to the mucous membrane of the nares. My experience of these remedies is such, however, that I do not recommend them to be used if the patient can possibly get along without them. There are, however, times, in the course of a season, when the patient will be glad to purchase temporary relief at any reasonable cost in the way of a little inconvenience caused by the use of the drugs, and it is under such circumstances that their use is justifiable.

§ 317. After my experiments commenced no treatment, except such as was merely palliative, was used. It will readily be understood that in following out the investigation this was a matter of necessity; to have attempted to try the action of remedies at the same time that I was endeavouring to get a knowledge of the nature of the cause might have rendered the latter completely abortive: thus I found myself obliged to abandon either the one or the other for a time. I therefore elected to pursue the inquiry into the causes and nature of the disorder, and to leave the attempt to discover a remedy to the time when we should have a full knowledge of these. I am at the present

time engaged in experiments on the action of various agents, and hope to be successful in my search for an effectual remedy for the disorder; but as I do not know how long these may occupy me I have preferred giving the results of my investigations as far as they have gone, rather than wait for a time which may possibly be somewhat distant.

§ 318. But although treatment by the administration of drugs has been so far of very little use, there is a possibility of alleviating the disease by a suitable change of locality, and by this means lessening the suffering. A sojourn at the sea-side is one of the best modes of palliating and often of curing the disease for the time; but it is not every sea-side district that gives the hay-fever patient relief. Any place which, though it may be on the sea coast, partakes of the character of a bay which is deeply indented into the mainland is not favorable for the prevention of hay-fever, especially if this bay is surrounded by land which is largely used for the growth of hay-grass. But the more any sea-side place has the form and character of a small island or a narrow peninsula, and the wider is the sea which surrounds either of these, the more completely will it protect the patient from attacks of hay-fever. For this reason a cruise in a yacht, which can keep well out to sea, is one of the best remedies that can be adopted; and failing this a sojourn on a small island in the open ocean is the best that can be found on land.

But wherever a patient may be, at the sea-side, if the wind is blowing direct from the land, and if hay-grass is in flower at the time, he will be liable to have an attack of hay-fever. It is, therefore, a matter of importance in selecting a retreat for the hay-season to find one where the prevailing winds are from the sea. It is also better to choose a place where the patient can be continually near the water, and if possible a place where the shore is backed with high cliffs, because these act as a sort of screen when a land wind is blowing.

§ 319. I am told by Americans with whom I have conversed, that the place which enjoys the greatest reputation

as a place of resort for hay-fever patients in America is Fire Island. This island is formed by a strip of land about three quarters of a mile in breadth by about nine miles in length: it is situated on the Atlantic side of Long Island; on one side a bay (the great South Bay), about nine miles wide, separates it from Long Island, and on the other side is the broad Atlantic. Scarcely anything but a coarse short marsh grass grows upon this island, and this is very rarely seen in flower in any quantity.

We have not many places on the English coast so favorably situated as Fire Island is, but nevertheless we have some which, so far as geographical position is concerned, will be found to be quite suitable. Lundy Island (near to Ilfracombe), in the Bristol Channel, would, on trial, be found to be a place where a patient would keep clear of hay-fever. In the South of England there are Lizard Point (Cornwall), the point of land near St. Mawe's, the point of land near to Her Majesty's residence at Osborne, as well as many other places on the south coast, which I think would also afford protection from the influence of pollen. Some parts of the Isle of Man, such, for instance, as the district a little beyond Port St. Mary or Port Erin (adjoining the Calf of Man), would also be very suitable. On the Welsh Coast the district near St. David's Head is also likely to be a very suitable place for hay-fever patients to pass the season of attack at. There are also some of the small islands off the West Coast of Scotland which would give complete protection from the attacks of hay-fever.

§ 320. For those who cannot go to the seaside the next best thing is to go to the centre of a large town—the larger the better, and as far as hay-fever is concerned, the more densely populated it is the better it is for the patient. If he suffers from the asthmatic form of the complaint, though a sojourn in the centre of a large town may not be a complete protection, it will generally afford great relief, and if he can keep indoors in the middle part of the day, he will suffer less than if the time is spent principally in the open air; and even in the country if the middle of the

day is passed in the house the patient will suffer a great deal less than he will in the open air. High mountain lands which are used only for grazing purposes will also be good for hay-fever patients, but these are not always as much to be depended upon as a well-chosen seaside residence is. Some parts of the Highlands of Scotland, as well as some of the mountainous districts in Wales, would be found to answer pretty well.

§ 321. I have now completed the task I set myself when I commenced my investigations on the causes and nature of hay-fever. Upon the result of the inquiry the reader can now form his own opinion. To my own mind the investigation has furnished conclusive evidence that, in this country, the exciting cause of the malady, as it occurs in summer, is the pollen of the grasses and the cereals; and also of the fact that, if a patient can, at the time these are in flower, avoid the neighbourhood where they are grown, he will to a large extent escape the attacks.

I am, as I have before intimated, quite aware that other agents may yet be found to produce symptoms not unlike those of hay-fever. Amidst the great number of bodies there are with functions similar to those of pollen, it would not be surprising if we should find some that have a similar kind of action; and it is not improbable that among these we may find the exciting causes of some diseases which are far more formidable than hay-fever. To have attempted an inquiry into the nature and mode of action of even a few of these would, in addition to the work I have done, have made the task too formidable to permit me to have a chance of completing it. I have therefore preferred to keep my attention fixed upon that part of the subject which I felt was fairly within my grasp. I cannot, however, but think that for those who have the courage to enter this path of investigation, as well as the patience and the perseverance necessary to pursue it steadily, there is a rich harvest of facts waiting to be gathered.

INFINITESIMALS AT THE FRENCH ACADEMY.

IN the twenty-fifth volume of this Journal, p. 151, in a review of a pamphlet entitled *The True and False Sciences*, we wrote thus:—

“ We are glad to find that the author abandons what many have fancied the best vantage ground on which to combat homœopathy. Except by assumption and inuendo he makes no attack upon infinitesimal doses. In truth, the ground is no longer tenable. Every step that science takes reveals the existence and activity of the infinitely little. When the ten thousandth of a grain of *Strychnine* will tetanise a frog; when the pupils can be dilated with the four hundred thousandth of a grain of *Atropine*, or rather with a drop of a solution of this strength, of which probably not a fiftieth part is absorbed; and when by the spectrum analysis the presence of *Sodium* can be detected, although in quantity it be only the twenty millionth part of the atmosphere of the room,—to speak of the absurdity of infinitesimals is itself absurd. We need send no forces to this part of the field: Science is fighting the battle for us, and perhaps will invite us to her triumph.”

It is well that we should note from time to time the advances which Science makes in this direction; and the researches of which we are now to give an account are the more noteworthy, that they have at a leap reached from seven to nineteen ciphers as the extent of the *proved* activity of infinitesimals,—that they demonstrate, not the mere presence of a twenty millionth, but the mortal virulence of a ten *trillionth*.

The researches in question are those of M. Davaine, of Paris, and were communicated to the French Academy of Medicine on the 17th of September of the present year. We have before us the *Bulletins* of the Academy for September 17th and 24th, and October 8th and 15th, which contain the full report of M. Davaine's paper and the consequent discussion.

The author names his subject "Septicæmia," which he defines as a disorder resulting from inoculation with putrefied blood. He refers to researches published by MM. Coze and Feltz in 1866, which established—1st, the contagiousness, *i. e.*, the transmissibility, of septicæmia; 2nd, the increase of the virulence of putrefied matter as it passed through the living organism, the septicæmic blood being more active than the original *materies morbi*. These facts, he also says, were known to Majendie.

MM. Coze and Feltz had estimated this increase of intensity by the shorter duration of life in the animals inoculated. M. Davaine thought it a more exact method to determine the difference by *dosage*. He would first ascertain what was the minimum quantity of putrefied blood required to kill certain animals, and then what proportionate dose of their septicæmic blood would suffice for the same end. To obtain the fractions of a drop which the second inquiry necessitated, he mixed one drop of the poisoned blood with one hundred of water, and from this made successive dilutions in the same manner. The dose was in every case injected into the subcutaneous cellular tissue with a Pravaz syringe.

The results must be given in the author's own words :

"Let us see first what is the quantity of putrefied blood sufficient to kill an animal. It will be enough, for the answer to this question, to give the results of the inoculations which I have practised during various experiments for some years past, confining myself to those made upon the guinea-pig and the rabbit, and with putrefied ox-blood.

"Of seventy-two guinea-pigs which I have injected with from one to ten drops of blood, forty-three have survived, twenty-three are dead. The proportion is that of about three living to two dying. Of eleven other guinea-pigs which have received fractions of a drop, none have died from a dose less than gtt. $\frac{1}{20}$ th.

"Forty-eight rabbits have been inoculated in the same manner, with doses ranging from one to sixteen drops of blood: twenty-two have survived, twenty-six are dead; the proportions being thus nearly equal. Of nine others which

were inoculated with fractions of a drop, none have died from a dose less than gtt. $\frac{1}{4000}$ th.

"We conclude from hence that putrefied blood, injected into the guinea-pig or the rabbit in doses of one or more drops, is only mortal in about half the cases. As regards doses of less than a drop, it is the exception for them to kill the guinea-pig beyond the one tenth, or the rabbit beyond the one hundredth. The extreme limit appears to be the one fortieth for the former, and the one two-thousandth for the latter.

"Next, for the second question we have to decide, viz., what dose of septicæmic blood, that is, of that of an animal who has succumbed to the inoculation of putrefied blood, will cause death in the animal who receives it?

"It would be too long to relate here all the experiments which I have made on this point. I confine myself to passing in review a series of twenty-five successful inoculations, which will give a sufficiently precise answer.

"Of the blood of an ox killed ten days previously, in July, and very foetid, I injected into the subcutaneous tissue of the neck of five rabbits quantities of two, four, ten, twelve, and fifteen drops respectively. All five died—the first in sixteen days, the second in nine, the third in forty hours, the fourth in twenty-six days, and the fifth in five days after the inoculation. I shall have to speak later of the long duration of life in four of these rabbits, and of the irregularity of that duration, which did not correspond with the quantity of blood injected.

"Blood from the heart of the rabbit killed in forty hours by the injection of ten drops of putrid blood was injected twelve hours after death into the cellular tissue of the neck of four rabbits. [I may say, once for all, that throughout this series the blood was always taken from the heart of the dead rabbits, and injected into the cellular tissue about the nucha.] The four rabbits, having received respectively one, two, three, and four drops of blood, died in one night, from thirty to forty hours after the inoculation.

"Not to waste the time accorded me by the Academy, I pass to the *fifth* 'generation' of the series. Blood from

the heart of a rabbit of the fourth generation was injected, two hours and a half after its death, into three other rabbits in doses of one drop, of one tenth, and one hundredth of a drop respectively. The first and second died in fourteen hours, the third in twenty hours.

"I pass on to the *tenth* generation. Three rabbits were inoculated with the blood of one of the ninth generation an hour after its death. One received one drop, another one ten-thousandth of a drop, and the third one twenty-thousandth. The first died the next night, the second fifteen hours and the third about thirty-five hours after the inoculation.

"At the *fifteenth* generation three rabbits were inoculated with a twenty-thousandth, a thirty-thousandth, and a forty-thousandth of a drop of blood. All three died in from twenty to forty hours afterwards.

"At the *twentieth* generation the blood of a rabbit an hour dead was injected in doses of a five-hundred-thousandth, a millionth, and a hundred-millionth of a drop. Of the three rabbits who received these minute quantities of blood, the first and the third died in thirty-five hours, the second in twenty-one hours.

"In the following generations I reached quantities whose minuteness was beyond all expectation. I had ascertained, in 1868, that guinea-pigs could be killed with doses of carbuncular blood smaller than the millionth of a drop. I was assured of this by experiments upon four of these animals, of which two died from the ten millionth, and two from the hundred millionth of a drop of such blood. But in spite of my knowledge of these facts I could scarcely persuade myself that the death of the animals inoculated with the infinitely small doses to which I had arrived was not the effect of some error in my operations. I surrounded myself, therefore, with the most minute precautions, both in the calculation of the successive dilutions and as to the cleanness of my instruments and vessels, which I frequently bathed in alcohol. But very soon the consonance and invariableness of the results obtained proved to me that they were untouched by error. I will now set forth

the facts in order, that I may convey to the minds of my hearers the conviction which is in my own.

"In the *twenty-second* generation three rabbits were inoculated with a millionth, a hundred-millionth, and a billionth of a drop of the blood of a rabbit dead two hours previously, which had been poisoned by a five-hundred-millionth of a drop of septicæmic blood. These three rabbits died—two in about thirty-six hours, one in forty hours.

"In the *twenty-third* generation one rabbit was inoculated with a hundred-millionth of a drop, another with a ten-billionth. Both died in about thirty-six hours after the inoculation.

"In the *twenty-fourth* generation five rabbits were inoculated from the blood of another dead from the hundred-millionth of a drop. The first received a hundred-millionth, the second a billionth, the third a ten-billionth, the fourth a hundred-billionth, and the fifth a trillionth of a drop of the heart-blood of this animal. All were dead before twenty-four hours had expired.

"Lastly, in the *twenty-fifth* generation, four rabbits received respectively a trillionth, a ten-trillionth, a hundred-trillionth, and a quadrillionth of a drop of the blood of a rabbit belonging to the last series, and perishing from the trillionth of a drop. One only of these animals died, viz. that which had received a ten-trillionth of a drop of blood.

"On the next day I repeated in part the experiments with the blood of the rabbit of the twenty-fourth generation, which I had preserved for this purpose.

"Two rabbits were inoculated, the one with a trillionth, the other with a ten-billionth of a drop of this blood. The first died in twenty-two hours, the second in about thirty-five hours after.

"It seems, then, that the limit of the transmissibility of septicæmia in the rabbit stands at the trillionth part of a drop of the septic blood."

M. Davaine goes on to point out the greater certainty and speediness of death from septicæmic than from simply putrid blood. All died from the former: only one

half from the latter. And in the series of experiments above related,—of the five rabbits inoculated with putrefied ox-blood, the duration of life was from thirty to forty hours in one, and sixteen, nine, twenty-six, and five *days* respectively in the others. While of the sixty-nine rabbits inoculated in the successive generations, all save two succumbed in less than forty hours.

The duration of life, he further points out, has no relation to the *quantity* of blood inoculated, within the limits specified. The irregularity which appears in the last experiments of all, where a trillionth killed in twenty-two hours, and a ten billionth in thirty-five, extends throughout the series. Sometimes, as in the fifth and tenth generations, the difference is the other way; and sometimes, as in the poisonings with putrid blood, the duration of life varied neither directly nor indirectly with the size of dose. The one great distinction lay in the *quality* of the septicæmic as compared with that of the putrid blood. It is otherwise, he says, with carbuncular blood, which kills with a rapidity proportioned to the quantity used.

Some pathological and clinical inferences are then indicated, and the author concludes with these remarks:

“A question which it is natural to put is that of the persistence of the virulence of septicæma during the several operations. Does the virus diminish in power? Does it exhaust itself at last? Or rather, on the contrary, does its activity increase by the successive transmissions?

“MM. Coze and Feltz admit the increasing intensity of the septicæmic poison in the successive generations. ‘We know not how to insist too strongly,’ say these distinguished observers, in a recent memoir, ‘upon the remarkable circumstance that the putrid ferment increases in activity in passing through several successive organisms. . . . The blood, after successive transmissions, is more toxic.’ These *savants*, however, report no new experiments in support of their proposition.

“The series of successive inoculations which I have communicated would seem to lend reason to this way of thinking; but this series had no other object, when it was

undertaken, than that of seeking the extreme limit of virulence.

"If the doses have been constantly decreased with the advance in the number of the generations, it is because the extreme limit sought was unknown, so unknown that no one suspected how far off it lay. It may at least be concluded from the examination of this series that the septicæmic virus is not weakened by its successive transmissions.

"As to the question of the increase of virulence in the successive generations, it can be resolved experimentally, and this is how I have done it.

"FIRST EXPERIMENT.—*First generation.* The blood of an ox preserved for ten days was inoculated into five rabbits in doses of a tenth, a fiftieth, a hundredth, a five-hundredth, and a thousandth of a drop. The first three died; the two last were, to all appearance, not even ill. The limit of the mortal septicity of putrefied blood in the rabbit is therefore within a five-hundredth of a drop.

"*Second generation.*—Blood from the heart of a rabbit dead from a tenth of a drop was injected into five rabbits in doses of a ten-thousandth, a twenty-thousandth, a thirty-thousandth, a forty-thousandth, and a fifty-thousandth of a drop respectively. All died in from thirty-five to sixty hours.

"SECOND EXPERIMENT.—*First generation.* From the blood of an ox preserved for five days five rabbits were inoculated in doses respectively of one drop, a hundredth, a thousandth, a two-thousandth, and a ten-thousandth of a drop. The first three only died. The power of the virus to kill did not therefore in these cases reach to the two-thousandth of a drop.

"*Second generation.*—The heart's blood of the rabbit dead from the hundredth of a drop was injected into three rabbits in doses of a hundred-thousandth, a millionth, and a ten-millionth of a drop. All three died in from sixteen to twenty-three hours.

"*Third generation.*—The blood of the rabbit dead from the ten-millionth of a drop was injected into five rabbits in

doses of a hundred-millionth, a millionth, a ten-millionth, a hundred-millionth, and a trillionth of a drop. All these rabbits died in twenty-four or twenty-five hours.

"These facts prove sufficiently that the septicæmic virus acquires its great potency at once."

In a subsequent communication M. Davaine discusses two further questions connected with septicæmia. The first refers to the *species* of animals experimented on, as affecting their susceptibility, and has no immediate interest for us. The second is, "What is the condition which gives a virulence so extraordinary to the blood of an animal inoculated with a putrid substance?"

To answer this, M. Davaine begins by experimenting upon putrid matter itself. Does it increase in septic and lethal power the longer it is kept, the more fœtid it becomes? The results prove the negative. Ox blood kept for ten days was far more virulent than that preserved for from eleven to sixteen days.

Again, he finds that the septicæmic blood itself loses, as putrefaction advances in it, its power of causing disease and death. On the ninth day after the decease of its owner it is found still vigorous; but by the twenty-third day it has become innocuous.

The destruction of the virus is effected, he thinks, in both cases by the ammoniacal and hydro-sulphuric products of the putrefactive process. He cites the phenomena of vinous fermentation as illustrative. When much sugar is present in the grape juice, alcohol is so rapidly formed that it checks the farther transformation of the sugar into the alcohol itself.

Now here, if the excess of alcohol be removed by distillation, the process goes on again till all the sugar is converted. In the same manner, he supposes, if the products of putrefaction be consumed as fast as they are produced, the whole material which is its subject becomes imbued with its virulent character.

A means for such consumption we have in the animal organism: ammoniacal products are rapidly eliminated by the kidneys; hydro-sulphuric acid, introduced into the

circulation, is at once exhaled by the lungs. Thus the inoculated putrid matter ferments without interference, till the entire mass of the blood acquires the intense virulence we have seen it display.

If it be so, then, by placing drawn blood in conditions similar to those which surround it while still in the veins, and introducing putrid matter into it, we ought to have similar results as regards the development of septicity, and that from minute quantities of the primary virus. These conditions M. Davaine supplied by exposing the blood he used to artificial heat equal to that of the body, and by absorbing (with animal charcoal and carbonate of lead) the products of putrefaction as they formed. His results were as he had expected. Blood rapidly became foetid under these circumstances; and infinitesimal doses of it, up to the trillionth, proved fatal to many a rabbit. He concludes that septicæmia is a putrefaction,—that the virus of the one and the other are identical.

With this M. Davaine ends his communication. It may well be supposed that the facts described by him caused no little flutter in the venerable Academy. But it is greatly to the credit of our French brethren that they seem to have at least outwardly preserved their scientific equanimity, and not to have allowed the evident tendency of M. Davaine's results to prejudice them against their reception. One only of the speakers in the discussions, M. Bouley, cannot forbear holding up his hands, and crying, "Un trillion, c'est mille milliards!"* No one seems to have thought of the objection, so obvious to the British mind—"A trillionth of a drop! Why, that means 'one drop of a lake fifty fathoms in depth, and presenting 250 square miles of surface' (Simpson). How can such a minute quantity have any effect?" In fact, the whole debate turns upon the pathological and clinical inferences warranted by the experiments;

* M. Bouley subsequently says, having had an opportunity of repeating some of M. Davaine's experiments—"I did doubt, in spite of the assertions and experiments of my colleague. Now I have seen, I have touched, I have myself experimented: and I am convinced."

and on these, though of much interest, we have not space to dwell."

The question for us is, How far do M. Davaine's results bear upon our use of infinitesimals, either as to their positive action or their comparative efficacy? Now we cannot at all agree with our contemporary, *L'Art Medical*, that the inference to be drawn is that the septicæmic poison is the more active the more it is diluted. It has hardly, we think, weighed the supplementary experiments, by which M. Davaine shows that "*toute de suite*" the virus acquires its utmost intensity, and the subsequent researches which prove that it is the rapid spread of putrefaction which the animal organism allows to which the sudden increase of virulence is to be ascribed. There is no analogy between the multiplication of an animal ferment and the mere dilution of a drug. The one is self-reproducing, or at any rate capable of catalytic transformation of its surrounding medium; and all that has been proved is that the ultimate smallest complete particle or group of molecules competent for such action may be as small as the ten-trillionth of a drop. We cannot argue certainly from thence to the activity of a corresponding quantity of a non-reproductive or -catalytic agent, like a drug.

What M. Davaine has really done towards strengthening our position is this. He has shown—what has often been questioned—that matter can be carried by the homœopathic process of attenuation above the 9th centesimal degree without ceasing to be present or losing the activity proper to it. No scepticism need hinder our using such potencies, so far as its doubts concern there being anything at all in the tincture we prescribe. But whether trillionths of mineral and vegetable poisons can influence disease, or can do so better than tenths and hundredths, is a question to be reached by other considerations.

ON THE THERAPEUTIC ACTION OF SERPENT
VENOM.

By Dr. RICHARD HUGHES.

(Read before the British Homœopathic Society.)

THE use—almost peculiar to the homœopathic school—of serpent venom as a medicine has lately been brought into renewed prominence. A member of this Society, Dr. Hayward of Liverpool, has, by proceedings known to you all, given us a preparation of the virus of the rattlesnake (*Crotalus*) on which we can fully depend; and promises to do the same thing ere long with the cobra (*Naja*) and the lance-headed viper (*Lachesis*). The pharmaceutic and posological obstacles which have hitherto stood in the way of an extended use of these remedies are now in fair course of removal; and we may hope for therapeutic results not unworthy—*magis venenum, magis remedium*—of their pathogenetic effects.

It was fitting, therefore, that at the late Congress the subject of the use of serpent venom should have been brought before us. Dr. Pyburn's paper, however, embraced the physiological action only of the virus, and seems to call for a therapeutic supplement. This I have endeavoured on the present occasion to supply,—estimating what has already been done, and indicating therefrom and from pathogenesis the directions in which we may look for advance in the future. I hope that your thought and experience may fill in the brief outline which is all I shall be able to draw.

Dr. Pyburn has wisely presented as our best proving of serpent venom the results of serpent bites. I think that these will be found to fall into three groups, corresponding to three leading forms of disease.

1. In the first group the symptoms are those of direct poisoning of the nervous centres without local inflammation

or blood changes. Sometimes the symptoms are those of epilepsy, as in the second case in Dr. Pyburn's paper; sometimes they are tetaniform, as in the fourth; most frequently there is nothing but profound prostration with speedily supervening unconsciousness. From the sense of being heated all over experienced in the third and fourth cases we may infer that there is paresis of the sympathetic. A bitten person who recovered speaks of a "violent throbbing headache" soon coming on (Case 6). Inoculation of the rattlesnake virus produced at the moment vertigo, which soon passed away; more rarely a nervous trembling of longer duration. Other neurotic effects of the inoculation were headache, generally occupying the frontal and orbital region, and lasting on an average twenty-one hours: and neuralgic pains in the head and neck.*

The outline thus given us in the effects of serpent bites is filled in by the experiments which have been made with the diluted virus taken internally. Of these the most important are Hering's proving of *Lachesis* and Russell's of *Naja*.

1. A most extensive pathogenesis of *Lachesis* has been given us by Dr. Constantine Hering in his work on the poison of serpents (*Wirkungen des Schlangen-giftes*). Some of the symptoms are effects of bites; but the majority belong to provings made upon the human body with the triturated virus. The only English form in which we have this pathogenesis is the condensed and abbreviated transcript of Jahr's Manual. Many indications for practical use have been drawn from it, especially in maladies of the throat and larynx.

2. Dr. Russell's proving of *Naja* is contained in vols. xi and xii of the *Brit. Journ. of Hom.* Besides his own, it includes the symptoms obtained by eight male and three female provers. The action of the medicine (taken in the 1st, 3rd, and 6th dilutions) was by no means powerful. Such as it was, it manifested itself mainly in the throat and larynx and in the head. The headache produced by it was often very severe, and accompanied with profound depression.

* Neidhard on *Crotalus horridus*.

There is also the proving of Dr. Mure, of Brazil, as translated by Dr. Hempel, a pathogenesis of *Crotalus*, of which I can say nothing.

II. The second form of serpent poisoning which seems to obtain is the *purpuric* or *hæmorrhagic*. Dr. Pyburn refers to some instances of this,* but a fuller account of it "On is given in a treatise by Dr. Neidhard, of Philadelphia, *Crotalus horridus* in Yellow Fever, &c." (2nd Ed., New York, 1868); and in an essay by Dr. Weir Mitchell, "On the Venom of the Rattlesnake," contained in the *Smithsonian Contributions to Knowledge*, vol. xii (Washington, 1860).

Dr. Neidhard's materials are a series of inoculations of the rattlesnake virus, practised with the hope that they would prove prophylactic of yellow fever, which to a large extent they seem to have been. This inoculation produced, in from eighteen to twenty-four hours, the hæmorrhagic condition of the gums which authors regard as a characteristic symptom of yellow fever, and pathologically identical with its black vomit. With this there were febrile heat, thirst and anorexia, red countenance, and injected conjunctiva; then jaundice and swelling of the face, with angina tonsillaris.

Dr. Mitchell found, when death was not caused by the ordinary nervous shock, a decomposition of the blood set up, resulting in its complete diffuence and non-coagulability. Ecchymoses and hæmorrhages were constant in the animals poisoned by him. He thinks the fibrin affected rather than the corpuscles, but Dr. Fayer found the latter altered in form and non-adherent.

In a later contribution (*Med. Times and Gazette*, February, 1869) Dr. Mitchell speaks again of the striking power of snake venom to cause hæmorrhages. You have only, he says, to moisten the intestinal peritoneum with it, and blood will be forthwith effused at the spot.

Dr. Mitchell concludes his account of the action of the rattlesnake venom by "calling attention to the singular likeness between the symptoms and lesions of *Crotalus* poisoning and those of certain maladies, such as yellow

* *Monthly Hom. Rev.*, Nov., 1872, p. 676, 677.

fever." He points out that in either there is "a class of cases in which death seems to occur suddenly and inexplicably, as though caused by an overwhelming dose of the poison." This holds good also of scarlatina. "A second class of cases survive the first shock of the malady, and then begin to exhibit the train of symptoms which terminate in more or less complete degradation of the blood. All these maladies, varying among themselves, exhibiting, as it were, preferences for this or that organ, agree in the destruction of the fibrin of the blood which their fatal cases frequently exhibit. In yellow fever the likeness to the venom poisoning is most distinctly preserved, as we trace the symptoms of both diseases to the point where the diffuent blood leaks out into the mucous and serous cavities." The effects of the inoculation, as I have cited them, quite sustain Dr. Mitchell's comparison, and the angina tonsillaris noted there again adds scarlatina to the similar diseases.

The *jaundice* of snake bites is one element in the resemblance of their phenomena to those of yellow fever. Frerichs* mentions several cases of its occurrence. It is not caused by obstruction to the flow of bile, and it depends either upon disordered innervation, or upon changes in the blood hindering the due metamorphosis of the reabsorbed bile. Of jaundice from the former cause we have an instance in that form of it which has followed (often suddenly) from mental emotions. The rapidity with which yellowness sometimes supervenes upon bites, especially of the viper ("in less than an hour" Mead says he has seen it†), suggests this explanation of it. But there is a jaundice which appears later on in the course of snake poisoning, which rather denotes that which is characteristic of yellow fever, and which not unfrequently complicates pyæmia, typhus, and other acute blood infections. In these maladies there is no change in the secreting structure of the liver, and hardly enough in its circulation to account for the deep and lasting jaundice observed. Moreover, "it is worthy of notice," writes Frerichs, "that when the diseases

* *Diseases of the Liver* (New. Syd. Soc.), vol. i, p. 160.

† *Ibid*,

just alluded to are complicated with jaundice, a group of severe symptoms, such as *hæmorrhages from the gastro-intestinal mucous membrane, ecchymoses of the surface, albuminuria, hæmaturia*, suppression of urine, &c., manifest themselves." Such symptoms plainly point to an extensive disorganization of the blood, and have already come before us as effects of serpent poisoning. I have in another place gone into the theory of their causation,* and will only here suggest that they depend upon some destructive agent which may either be furnished by the liver itself, as in acute atrophy of that organ, or formed independently of it as in these fevers. In the former case they find their *simile* in *Phosphorus*; in the latter in snake venom.

III. In the third place we have those symptoms which result from the local affection induced by the bile. The inflammation set up is always of an asthenic character. In form it is a cellulitis or an erysipelas. Its sanies is absorbed either by the lymphatics, causing angioleucitis, abscess of the lymphatic glands, and inflammation of the areolar tissue higher up; or by the veins, resulting in pyæmia. The local inflammation often goes on to gangrene; and with this, and the other secondary consequences described, there is constitutional disorder of a typhoid type.

These phenomena at once open a wide range of action for serpent venom, when administered as a remedy according to the principle "*similia similibus*." Whenever a local affection assumes a malignant character, and from thence proceed poisoning of the blood and prostration of the nervous energies, its use is indicated. Traumatic gangrene, carbuncle, malignant pustule, malignant erysipelas, putrid sore throat, are instances of such a pathological state. The effects of dissection wounds, and pyæmia in general, come within the same category; and the second stage of malignant scarlatina often belongs to it, where, as Watson puts it, "the system is re-inoculated from" the ulcerated and gangrenous throat.

We have now to inquire how far these indications have

* *Brit. Journ. of Hom.*, vol. xxii, p. 127.

been carried out in practice. The materials for such an inquiry are scattered throughout our literature; but there are three records of especial fulness to which I shall make reference. The first is an article on *Lachesis* by its introducer, Dr. C. Hering, in vol. ii of the *Brit. Journ. of Homœopathy*. The second is a series of cases of severe disease, illustrating the action of the same remedy, by Dr. Carroll Dunham, in vol. iv of the *American Homœopathic Review*. The third is a paper read before this Society on the Snake-poisons, by Dr. Bradshaw of Nottingham, and printed in vol. i of our *Annals*.

I. In the *neurotic* sphere of these poisons they have proved most valuable remedies. They heal, as they hurt, especially when the nerves having their centres in the medulla oblongata are disordered. Hence their usefulness in affections of the *throat* and *larynx*, the *bronchi*, and the *heart*.

Lachesis is a great medicine for what may be called a "nervous sore throat." In its acute form the sense of aching is out of all proportion to the visible mischief. When chronic it is the "irritable throat," always uneasy, and causing choking, hawking, and coughing. The feeling as of a dry spot in the throat, or of general dryness of the part, especially on waking from sleep, also of a lump in the throat on empty deglutition, are characteristic of it. Several of Dr. Hering's cases are of this kind; and there is a striking one in vol. xxii of the *Brit. Journ. of Hom.*, p. 488. It is thought by some that *Lachesis* even controls inflammations of the throat, as tonsillitis (especially, they say, when beginning in the left tonsil),* and syphilitic angina.† *Naja* certainly effected, in Dr. Russell's hands, a rapid cure of an acute pharyngo-larngitis.‡ He considered it indicated when the fauces had a dark-red colour.

The affection of the larynx in which *Lachesis* has been found curative is a catarrh with little secretion and much sensitiveness. The cough is dry, coming as it were from a

* *Amer. Journ. of Hom. Mat. Med.*, I. 128.

† Hering, Case 4. *Amer. Hom. Rev.*, iv, 410.

‡ *Brit. Journ. of Hom.*, xii, 213.

sense of tickling in the larynx, provoked by deep inspiration, by speaking, and especially by external pressure, which cannot be borne, and aggravates the whole trouble. "There is moreover a sense of fulness in the trachea and a very painful aching in the os hyoides." I quote from Dr. Carroll Dunham, whose comparison of *Lachesis* with *Belladonna*, *Phosphorus*, *Causticum*, and *Rumex crispus*, is a masterly piece of work.* *Naja* has proved in my hands very useful in cough, laryngismus, and even spasmodic stricture of the œsophagus, when these are the result of spinal irritation affecting the nucha.

Lachesis has no power over bronchitis, as such. But it has rendered great service in this affection as a neurotic ally. It is indicated when the cough is spasmodic and suffocative; and, though abundance of fluid mucus is heard in the chest, it is not expectorated,† or only after long effort.‡ Such coughs occur especially in the subjects of cyanosis and cardiac disease; and in their bronchial attacks *Lachesis* should always be thought of.

Both *Lachesis* and *Naja* are of great value in cardiac affections; not, I think, by direct action on the substance of the organ, but by influencing its innervation. In the "tremulous irritability of the heart" left behind after scarlatina§ and such-like fevers, and in the sympathetic cough of cardiac affections, *Lachesis* is highly praised. *Naja* was Dr. Russell's favourite remedy for chronic nervous palpitation, for the restoration of a heart damaged by acute inflammation, and for assuaging the sufferings of chronic hypertrophy and valvular disease.|| Dr. Bradshaw reports a case of angina pectoris cured with it (Case 1).

Besides these pneumogastric disorders, we have *headache* as a trouble in which both *Lachesis* and *Naja* have done good service. The headaches of *Lachesis* are fully discussed and illustrated in Dr. Black's papers in vol. v of the *Brit.*

* See Hale's *New Remedies*, sub voce *Rumex crispus*.

† *Amer. Hom. Review*, iv, 415.

‡ Bayes, *Applied Homœopathy*, p. 109.

§ *Annals of Brit. Hom. Soc.*, iv, 167.

|| *Brit. Journ. of Hom.*, xii, 372, 549; *Annals*, i, 297.

Journ. of Hom. (pp. 403, 424—435).* The “nervous” and the “sick” headache are its spheres; the pain is unilateral and the face pale. It is also good for the burning vertex headaches of the menopause. The headache of *Naja* is a dull but severe pain in the temporo-frontal region, with much depression of spirits.† Dr. Russell also speaks of it in weight and pressure at the vertex, with cold feet and flushes of the face.

I have no knowledge of the application to practice of the epileptic and tetanic phenomena occasionally induced by snake venom, though it would seem specially homœopathic to traumatic tetanus, and no less to hydrophobia.‡ But one of the most valuable uses of *Lachesis* hangs on that paresis of the sympathetic which we have seen induced in sufferers from the bite. It is in that *vaso-motor ataxy*, or ganglionic nervousness, which is exhibited chiefly in the “flushings” of the climacteric period, but which has other manifestations. It constitutes or complicates most affections occurring at this time of life, and *Lachesis* is helpful in all of them. Dr. Bayes, in his *Applied Homœopathy*, confirms the favourable account I had already given of this application of the medicine in my *Manual of Pharmacodynamics*,—I myself, as I there state, having learned it from Dr. Madden. I have also referred in a note to some published cases illustrative of it.§ The eighth case of Dr. Hering’s series is one of nervous dyspepsia, which reads like a neurosis of the solar plexus.

In these nervous affections “characteristic” symptoms of the drug, however trivial, are often useful guides, while in graver maladies they would be out of place. One of these is that symptoms especially appear, or are aggravated, on waking from sleep.

II. Next, what use has been made of the *hæmatic* action of serpent venom?

* See also *Brit. Journ. of Hom.*, xxii, 482.

† *Brit. Journ.*, xii, 214.

‡ The symptoms induced in dogs by the bite of the cobra often shadowed out, and in one case strikingly imitated, even to the rage, the phenomena of hydrophobia (*Brit. Journ. of Hom.*, xi, 82—84).

§ *Monthly Hom. Review*, 1865, p. 763; *Brit. Journ. of Hom.*, Jan., 1873.

Of *purpura* I can only find two cases in which it was given.* In both it rapidly dissipated the symptoms. The hæmorrhage was subcutaneous only. The constant oozing of blood from an ulcer remaining after post-scarlatinal abscess led to its use in one instance,† and with the best results. Our information regarding its employment in *yellow fever* comes from Drs. Holcombe‡ and Neidhard§. The former used *Lachesis* and speaks well of it, but as *Arsenicum* was generally alternated with it, this experience is of doubtful value. Dr. Neidhard, in an epidemic occurring in Philadelphia, in 1853, was led to rely more and more exclusively on *Crotalus* in its treatment. He found the dilutions from the 3rd downwards far superior to the higher. In 1858 some more cases occurred, and again *Crotalus* served him well. He was thus led to give it in cognate forms of disease (as he considers them)—the “bilious remittents” of his neighbourhood, which often assume a malignant form, and then closely resemble the true “typhus icterodes.” Here, also, he found the remedy of signal value.

Serpent venom should be borne in mind as a remedy :

1st. Whenever jaundice, primary or secondary, is accompanied with ecchymosis or hæmorrhages. Here it compares with *Phosphorus*, which would supplant it when the liver was intimately affected, as in acute atrophy of that organ. Jaundice from mental emotion would also suggest snake venom, especially that of the viper, as its remedy.

2nd. Whenever a purpuric condition supervenes upon other diseases, as typhus and variola, constituting their hæmorrhagic forms. These are very fatal, and a powerful remedy for them is much needed. *Arsenic* is tolerably homœopathic, but is hardly rapid enough in its action.

3rd. When the epidemic cerebro-spinal meningitis appears in the form known as “malignant purpuric” or “spotted fever.”|| Here the prostration is early and in-

* *Amer. Jour. of Hom. Mat. Med.*, iv, 66; *Brit. Journ. of Hom.*, xxii, 489.

† *Amer. Hom. Rev.* iv, 362.

‡ *North Amer. Jour. of Hom.*, iii.

§ *Op. cit.*

|| *Brit. Journ. of Hom.*, xxiii, 394-5.

tense; the febrile reaction slight; and the appearance of petechiæ constant, with sometimes hæmorrhages.

III. Malignant local inflammations, with secondary blood infection and nervous prostration, have proved pre-eminently the sphere of action of *Lachesis*. A typical instance is *traumatic gangrene*. Of this disease Dr. Dake, of Pittsburg, has published three cases, which are so decisive as to overcome even Dr. Hempel's scepticism as to the virtue of the remedy. They are given at length in the second edition of his *Materia Medica*; and in the *Amer. Hom. Review*, vol. iv, p. 557, Dr. Searle, of Brooklyn, has recorded two others. To these I would add the testimony of Dr. Franklin, who, as army-surgeon in the late civil war in America, had abundant opportunity of seeing the disease. "I have used this remedy," he writes in his *Science of Art and Surgery*, "in a number of cases of gangrene following wounds, and have never been disappointed in its results. In a case of compound comminuted leg-fracture, terminating in gangrene and threatening speedy destruction of the limb, the gangrene was quickly checked by the internal and external use of *Lachesis*, the inflammation subsiding, and the healing process moving on to a complete cure. In another case of compound dislocation of the ankle-joint, with fracture of malleolus externus, followed by gangrene, *Lachesis* effected a speedy cure, the patient making a good recovery under the surgical treatment employed. I cannot recommend too highly the use of this agent for gangrene, and am confident that the observations of all who have employed or may employ it will bear me out in the assertion that it is eminently curative of gangrenous affections."

It is affections of this kind, moreover, which form the bulk of the paper of Dr. Carroll Dunham's to which I have referred. He begins with a case of *septicæmia* occurring in his own person, as the result of a wound incurred during the post-mortem examination of a case of puerperal peritonitis. Both the local and general symptoms were severe, but they rapidly yielded to *Lachesis* 12, three times a day. Next he relates an epidemic of *malignant pustule*, in which he treated eight cases with *Lachesis* alone. "It relieved

the pain within a few hours after the first dose was given, and the patients all recovered very speedily." Then he speaks of three cases of *phlebitis* supervening upon ulcers (probably syphilitic) of the lower extremities. There was great and sudden prostration of strength, low muttering delirium, and general typhoid symptoms. The effect of *Lachesis* was all that could be desired, the patients rallying promptly, all symptoms of phlebitis speedily disappearing. Last, he narrates one case, and refers to others, of *carbuncle*, in which the constitutional symptoms denoted very great prostration, *not* preceded or attended by the venous and vascular erethism which is sometimes observed in similar cases. The absence of this condition is, he thinks, in all these disorders, the indication for *Lachesis* as against *Arsenicum*, when the asthenia is not so complete as to call for *Carbo vegetabilis*.

Besides these, Dr. Dunham refers to the usefulness of *Lachesis* in certain cases of *diphtheria*. In these the tumefaction of the throat was slight, and the redness of the mucous membrane hardly noticeable, the diphtheritic deposits consisting merely of two or three patches hardly larger than a pin's head. But the prostration of strength was quite alarming;* the pulse became, in a very short time, slow, feeble, and compressed; a cold, clammy sweat frequently covered the forehead and extremities; the breath was foetid; the appetite entirely destroyed. "In such cases," he writes, "in all in which the constitutional symptoms thus predominated over the local, *Lachesis* produced prompt and lasting improvement, so much so that very rarely was any other remedy given subsequently." To the same effect is the testimony of Dr. Tietze, of Philadelphia, in the *United States Medical and Surgical Journal*, vol. iv, p. 161. He mentions a purple, livid colour of the affected

* "In acute cases" (of snake-poisoning) "the symptoms of depression are most marked, and the heart and nerve centres are suddenly and fearfully enfeebled, so that their irritability is lessened, and is finally lost earlier than occurs in other forms of death" (Mitchell, loc. cit). "The principal constitutional effect of the venom is a general prostration of the most appalling character" (*Ibid.*).

parts, with dull, dry¹ appearance and little swelling, also pain out of all proportion to the amount of inflammation, as local characteristics of the remedy. He places it as third to *Belladonna* and *Apis* in throat affections, in the descent from sthenic to asthenic conditions. Dr. E. M. Hale also contributes to the *American Journal of Homœopathic Materia Medica** three similar cases of diphtheria in children, which made a rapid recovery under *Lachesis*, while the rest of the family (altogether eight in number) under allopathic treatment succumbed to the disease.

Cognate to diphtheria is *scarlatina*. We have already seen how Dr. Mitchell suggests the similarity between the phenomena of snake-poisoning in its most *foudroyant* form, and those of the invasion of malignant scarlet, as well as yellow, fever. Dr. P. P. Wells, of Brooklyn, sustains the comparison from the homœopathic point of view.† But there is another stage of *scarlatina* in which the power of *Lachesis* comes into play. It is when the throat symptoms assume a virulent character, and therewith signs of blood-poisoning and prostration show themselves. Only last summer I saw *Lachesis* rapidly change a case of this kind from the sphere of gravest foreboding to that of happy convalescence.

I have already suggested malignant erysipelas, and pyæmic infection in general, as morbid states of this kind, and thus indicative of snake venom in their treatment. Severe symptoms resulting from insect stings would also call for it in preference to *Apis*; there is on record a case of the bite of the tarantula in which it proved very efficacious.‡ The following narrative, moreover, suggests the homœopathicity of *Crotalus* to *glanders*. "On the Rio Grande, in October, 1857, two horses were bitten by the same rattlesnake while grazing. A few hours afterwards the sub-maxillary, parotid, and all glands situated about the head and neck were greatly enlarged; from the

* Vol i, p. 184.

† *Amer. Hom. Review*, iv, 355; see also p. 556.

‡ *Amer. Jour. of Hom. Mat. Med.*, iv, 106.

nostrils and gums a clear mucous discharge ran down ; the eyes were glairy, with the pupils greatly dilated ; and the coat was rough and staring." After antidotes " both horses recovered ; one, although reduced in flesh and thrown out of condition, was fit for work in a week, but the other only just escaped with his life, became a perfect skeleton, and only commenced to mend at the end of three weeks."*

I cannot conclude these remarks without two comments :

1st. The use of snake-venom as a remedy is throughout an exquisite instance of the operation of the law of similars. The spheres of its poisonous and its curative action exactly coincide. Not only is it *quantum venenum, tantum remedium*, but also *quale venenum, tale remedium*. Such a fact adds confirmation to our faith, and strengthens our arguments with the yet unconvinced.

2nd. The observations of the curative action of this virus, if worth anything at all, prove the validity, not only of our therapeutic rule, but also of the infinitesimal dose. The results gained with *Lachesis* are all due to the 6th or higher dilutions, for we have never had lower potencies in our hands. This fact does not, indeed, forbid the hope that we may do yet more with *Crotalus* and *Naja*, and even with *Lachesis* itself, when we can give them in less attenuated forms. But it speaks volumes for the *positive*, though it says nothing indeed as to the *comparative*, efficacy of infinitesimal doses of similarly acting remedies.

NOTE.—The following are references to cases on record in which *Lachesis* and *Naja* have appeared to be curative, but which do not seem to fall within the categories above given.

Lachesis.

Ovarian affections. *Amer. Journ. of Hom. Mat. Med.*, i, 44 ; *United States Med. and Surg. Journ.*, ii, 85.

Acute rheumatism. *Amer. Journ. of Hom. Mat. Med.*, i, 44.

* *Monthly Hom. Review*, July, 1870.

- Malarious and cinchonal cachexia. *Ibid.*, i, 61.
 Puerperal convulsions. *Ibid.*, i, 76.
 Acute œdema of upper lip. *Ibid.*, i, 244.
 Brain affection after operation for fistula. *Ibid.*, iii, 49.
 Rheumatic prosopalgia and paralysis of tongue. *Ibid.*, iii, 111.
 Pulmonary disease. *Ibid.*, iv, 121; Hering, *loc. cit.* Case 9; *Amer. Hom. Rev.*, iv, 107.
 Bronchitis and paraplegia in spinal disease. *Brit. Journ. of Hom.*, xxii, 481.
 Ecthyma. *Ibid.*, xxii, 486.
 Ulcerated prolapsus ani. *Amer. Hom. Rev.*, iv, 409.
 Whitlow. *Ibid.*, iv, 411.
 Acute venous congestion of hand or foot. Hering, *loc. cit.* Cases 5 and 7.
 "Shortening of tendons." *Brit. Journ. of Hom.*, ii, 376.
 Glossomania. *Ibid.*, xii, 472.
 Inflammation of cœcum. *Ibid.*, v, 40.
 Irritable and varicose ulcer. *Hughes' Pharmacodynamics*, *sub voce*.

Naja.

- Spinal irritation. *Annals*, i, 304.
 Cough of pulmonary and laryngeal phthisis. *Ibid.*, i, 298-9.

Discussion on Dr. Richard Hughes' paper.

Dr. HALL referred to some questions he had lately put to an Indian civil surgeon who had treated many cases of snake bite with the view of obtaining some information as to the symptoms which follow poisoning when it is not fatal, but failed in eliciting any pathogenetic symptoms useful to homœopathists. With regard to the fatal effects of the bite of a vigorous full-grown cobra it was described to resemble more death caused by electricity than anything else. His own experience of *Lachesis* as a remedy was considerable. He had found it valuable in symptoms accompanying the climacteric. In a very bad case of syphilitic phagedæna of the soft palate and fauces, which threatened to

destroy the entire pharynx, the ulceration was arrested and healed kindly. He had prescribed it in some forms of ulceration of the legs, the ulcers having a blue margin being the indication for its use. In the case of a lady who was recovering from a large pelvic abscess, which had caused a contraction of the psoas muscle, drawing the knee up towards the abdomen, the effect of *Lachesis* was most remarkable, removing the contraction in a remarkably short time.

Mr. POPE thanked Dr. Hughes for a thoroughly practical and useful paper. Dr. Hughes had referred to the question of dose, and the allusion he had made to his (Mr. Pope's) slight proving of cobra reminded him of a circumstance which, so far as it went, seemed to him to have some bearing upon the dose of snake venom. When he undertook to make a proving of cobra poison Dr. Russell sent him three packets of powders. The first set were consumed in a week, and gave rise to no inconvenience whatever. They contained the 1st dilution of cobra. The second set contained the 3rd dilution. He began to take them three weeks after finishing the first. The headache and depression they excited, or appeared to excite, were extreme; so much so that he ceased to take them after a day or two. On resuming them the same headache and the same depression reappeared, and continued with increasing severity until the set was finished. In three weeks more he began the third set containing the 6th dilution. The headache and depression again recurred, but in a much slighter degree. From this single observation any deduction was of course impossible, as it might be that he was peculiarly susceptible to the influence of serpent venom.

Dr. HUGHES here said that Dr. Russell, subsequently to sending out the first packet, had reason to believe that the powders it contained were worthless.

Mr. POPE (resuming) remarked that if such was the case the observation he had made was valueless so far as rendering possible any comparison between the power of the 1st and 3rd dilutions respectively was concerned. With regard to hydrophobia the only case of recovery with which he was acquainted was one under the care of the late Dr. Ramsbotham, then living at Huddersfield. Three men were bitten by one dog. Two manifested all the symptoms of the disease, were treated by allopathic surgeons, and died. The third came under Dr. Ramsbotham's care early. He had all the incipient symptoms of that terrible disease, and recovered. *Lachesis* was one of the remedies prescribed, and he believed that *Belladonna* was also given. It was certainly a medicine which gave us much reason to hope that it would prove serviceable in hydrophobia. During the first year he was in practice he saw the only case of glanders he ever had seen. The symptoms were at first sight very puzzling. The swellings over the joints bore a striking analogy to purpura, and probably *Lachesis* was useful in both diseases, both being pathologically

analogous. He trusted, however, that no one would attempt to cure glanders in the horse with *Lachesis* or any other medicine. A glandered horse was far too dangerous an animal to be allowed to live. He ought to be shot at once. *Chloral*—of which from the liberal use made of it by allopathic practitioners we had now a tolerably complete proving—was likely to prove a useful remedy in purpura. He could confirm from his personal experience the value of *Lachesis* in the earliest stage of diphtheria. He was confident that he had succeeded in checking its progress with this remedy. Dr. Dudgeon had referred to the difficulty which existed in ascertaining the exact species of snake from which Dr. Hering had obtained the venom with which he experimented. Mr. Pope thought that he was correct in stating that the identical snake, in a state of good preservation, was presented by Dr. Hering to the Museum of the Homœopathic Medical College of Pennsylvania. If such was the case there would be no difficulty in a correct definition of the species being made.

Dr. LEADAM remarked that in the case of hydrophobia treated by himself successfully, and which was published in the *British Journal of Homœopathy* in 1849, *Lachesis* was used with decided advantage.

Dr. WYLD was indebted to *Lachesis* partly for his conversion to homœopathy by the apparent success which followed its use when he tested it in a case of peritonitis. Notwithstanding the scepticism which clung to the source of supply of *Lachesis* he found it a very valuable remedy in palpitation of the heart, especially if accompanied by flatulence.

Mr. HARMER SMITH said he had been sceptical as to the power of snake venom, and had scarcely prescribed it in consequence. His scepticism had been entirely founded on theoretical objections to its influence. It was known, for example, to have been sucked harmlessly from wounds, and he should be glad to know how Dr. Hughes accounted for small, and even infinitesimal doses escaping the action of the gastric juice, as of course it must in order to exert any therapeutical influence. Was it absorbed by the mucous membrane of the mouth and pharynx so as not to reach the stomach? but then the facts as to the innocuousness of the concrete substance, when sucked from a wound, would seem to forbid this way of disposing of the difficulty. Our past experience, however, and the present and apparently incurable folly of the allopathic schools, would sufficiently prove the absurdity of opposing *à priori* reasoning to the logic of facts, and after the evidence adduced in Dr. Hughes' interesting paper in favour of the curative power of snake venom, he (Mr. Smith) should feel bound to give it a trial in the first suitable case that presented itself.

Dr. DRURY had no doubt as to the efficacy of remedies of this class from what he had observed of the action of *Lachesis*. He considered it as a medicine of great value at the change of life,

especially where there was flushing. He also regarded it as a valuable remedy in certain forms of sore throat. One symptom in particular, "that of a sensation as if there was a fish bone sticking in the throat," was an indication for its use, and one that *Lachesis* might be expected to relieve. He also found it of much use in cases of flatulence attended with a vomiting up of wind. With such symptoms he considered it a most useful medicine.

Dr. MACKECHNIE considered our thanks were due to Dr. Hughes for his valuable paper, which he hoped to hear followed by similar comparisons of the other animal poisons—the insect poisons, for instance—*apis*, *vespa*, *tarantula*, *cantharis*, *cimex*, &c. These equally with the snake poisons require further investigation and arrangement. Then there were the not less useful if less powerful *Sepia*, *Ambra-grisea*, *Moschus*, *Mephitis*, &c. In all the animal poisons there appeared to be a marked relation and analogy, though the distinctive characters were striking enough where their actions had been sufficiently investigated to make out anything like their exact relation to the animal organism. For himself he looked upon the snake and insect poisons as among the most striking in our *Materia Medica*, whether in relation to the law of similars or to the question of the infinitesimal doses. For the latter he considered that these poisons gave the strongest evidences we had in its favour. *Lachesis*, for instance, had never been used (at least in this country) below the 6th dilution, and very seldom below the 12th, yet he considered that there was hardly a medicine in which he could put more decided reliance when it appeared to be well indicated. Years ago one of the gentlemen present, who had spoken contemptuously of this drug, had, accompanied probably by some want of success in his own selection of cases for its use, hindered him for a time from using it, but he had come back to it and now used it more than ever. The cases in which he used it (*Lachesis*) most were in the troubles of the menopause, especially those affecting the capillary circulation. He had found *Naja* of great use in such cases when the disturbance was more markedly in the central organ of the circulation. Perhaps the most remarkable results in one disease were in three cases of ovarian disease which he had had the opportunity of seeing nearly at the same time ten or twelve years ago. In one of these the disease was absolutely stayed, and the patient is still living and well, and though other medicines had been used in the course of the treatment, there was no doubt that it was the main agent in her cure. A second case was that of a woman, an epileptic from childhood, whom he has known for more than twenty-one years. In this case, although cure could not be said to have been effected, the progress of the disease was stayed, and the woman, though not well, is able to perform her household duties and is comparatively well, thanks to *Lachesis*. In this case the epilepsy was a great embarrassment, and the treat-

ment was constantly being interrupted. A third case occurred about the same time, also treated with *Lachesis*, when great improvement took place, but she was lost sight of as cure appeared to be nearly attained, and nothing more was heard of her. He had found *Lachesis* of great use in a form of sore throat which is epidemic at times, where, after the more acute symptoms are allayed, the throat remains painful; the fauces, tonsils, pharynx, &c., are of a dull purplish line, and there is a tendency to ulceration in points, sometimes with decided venous congestion. In these cases *Lachesis* seems to hasten the relief of this congestion in a very marked manner. In gangrenous states, and in ulcerations with tendency to sphacelation, *Lachesis*, *Naja*, and *Crotalus* were all manifestly of use, though for himself he had been more in the habit of using the first. The same was the case with weak heart, especially when occurring with intermittent pulsation and a sense of weight at the heart. *Crotalus* he had used lately with great advantage in a case of delirium tremens, where there was nearly constant drowsiness, but with the usual inability to sleep. *Hyoscyamus* had been given with slight relief to the symptoms when *Crotalus* came in in a very effective manner, and brought the patient speedily back to a state of quietude. He had tried *Crotalus* in a case of the hæmorrhagic diathesis which had been in the wards above, but with little or no effect on the state of the patient. He had not found any use in *Crotalus* in the cases of jaundice in which he had used it. *Naja* he had tried often in cases of heart disease formerly, but had gradually got out of the habit of using it, and fallen back more upon his old friend *Lachesis*, probably because of the mention of *Lachesis* in the *Jahr* he was in the habit of consulting, while *Naja* was wanting there.

Dr. HUGHES, in reply, said that he felt some sense of unreality in answering the observations made, when the majority of those who made them had left before the close of the discussion. Dr. Hamilton's remarks on the difference between the symptoms according to the kind of serpent which bit were valuable. He thought, however, that the distinction was one of degree and prominence rather than of kind, and that the most important symptoms of poisoning were the same whatever the source of the venom. He quite agreed with Dr. Hale's comparison of the effects of snake bite and those of lightning; the non-coagulable blood was a feature common to both. He allowed also to him that early jaundice may be the result of fear; but when (as in the inoculations) it occurred late in the poisoning, and associated with hæmorrhagic symptoms, he thought it far more analogous to the jaundice of yellow fever and other blood infections. Dr. Blackley's observations were just the things we wanted to fill in our outline knowledge of the therapeutic action of venom. So far as they go they invalidate it in hæmorrhagic conditions, and substantiate its efficacy in secondary infections. In conclusion, he

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pressed upon his colleagues the importance to the cause of homœopathy of this inquiry. If we can demonstrate the conversion of a deadly poison, hitherto known only for its destructive power, from *venenum* into *remedium*, and this by means of the law of similars and with the minute dose, we shall have a new and most powerful argument for the soundness of our method.

REVIEWS.

A Practical Treatise on Urinary and Renal Diseases. By
WILLIAM ROBERTS, M.D. 2nd Edition. London:
Smith & Elder. 1872.

THE appearance of this work, that of Dr. Inman on myalgia, and the recent treatise of Dr. Allbutt, of Leeds, on optic neuritis will go far to dissipate the vulgar notion that with physicians, as with milliners, coach-makers and the like, you cannot meet with excellence in the provinces, but must of necessity go to London. We can safely commend this book to the busy practitioner as a complete handbook of the subject brought up to the day, and as one which will take the place formerly so well filled by Dr. Golding Bird's well-known work. It does not profess to give the whole chemistry and physiology of the formation of the urinary contents in their remote bearing on nutrition; for these the reader is referred to the works of Beale, Vogel, Parkes, and others; but it is confined to those points which have an ascertained bearing on clinical indications. The author begins by a good description of the chemical and physical properties of healthy urine, and the changes to be looked for in disease, as far as is known up to this day; also a coloured plate of Vogel's scale of colours and numerous woodcuts of the morbid anatomy, general diseases, and of the microscopic appearance of the sediments, &c., and his remarks are very practical in respect to the proportional alteration of the normal constituents of the urine, and calculated to be useful to the busy practitioner who is often puzzled as to the significance, if any, of many such changes. The author, likewise, gives the description of the apparatus for testing urine for clinical purposes, and the figure of a neat stand designed by himself, which seems very complete and

practical. These stands and the complete apparatus are made by Mothershead & Co., Market Place, Manchester, at the price of £2 2s. The author's pathological and theoretical views are, on the whole, extremely correct as far as we can judge, and will, in most cases, prove serviceable to the practitioner who is puzzled by the premature application of new pathological facts to practice in a way that goes against his common sense and experience. For instance, we find here original observations on oxaluria which dissipate the bugbear raised by Golding Bird under that name. Likewise, by our author's own observations and those of Beale, Vogel, and others, the so-called phosphatic diathesis of Prout is exploded, and the clinical significance of the phosphates is reduced to nothing definite as yet. The same may be said of the chlorides. The remarks on spermatorrhœa are also very good and sensible, and dispose of that exaggerated importance which the public and even some of the less experienced medical practitioners have attached to seminal losses. But he does not touch on that difficult question, viz. the necessity or not of marriage or regulated sexual intercourse for individual cases. We should have liked to hear his opinion upon that point. We find in this work a valuable series of original observations on suppression of urine from occlusion of the ureters; also upon the acidity of the urine; and from these we would be disposed to agree with the author's theory of the diminished acidity of the urine after meals; viz. that it is caused by the preponderance of alkaline bases in the ordinary articles of food, and thus a meal is, *pro tanto*, a dose of alkali, rather than that of Bence Jones, who attributed it to withdrawal of acid from the blood for the purposes of digestion, as if the gastric juice and its acids existed ready formed in the blood! On another point, however, we can by no means agree, and here the doctrinal prejudices of his school come in to trouble his otherwise clear judgment. At p. 66 he says, "It may be regarded as probable that the defective power of the kidneys to eliminate uric acid in gout arises from a diminished alkalescence of the blood, and that the rational correction of this defect is, in addition to a

revision of the dietary, a steady exhibition of alkaline remedies in the intervals of the articular paroxysms." The diminished alkalescence of the blood, if such exists, depends on perverted action of the living matter, and it is an utterly unproved assumption that the exhibition of alkalies as such can correct that morbid vital action. To resort to such an injurious and dangerous practice on such a vague hypothesis is, we think, quite unwarrantable, and we refer our author to Trousseau's solemn warning against the abuse of alkaline medicines and mineral waters in these and other cases. This we do not think inconsistent with the approval of the author's solvent plan for calculi to be presently given, for if that were restricted to *quite healthy* individuals and in moderation, we think it could be borne, but no one would call a gouty man healthy.

The chapter on Gravel and Calculus, just alluded to, is particularly interesting and contains much original matter, if, indeed, our author may not claim the merit of a revival of the solvent treatment of calculi on a rational basis. This subject also illustrates our position as a school of medicine which puts forward the claim of being the only true non-sectarian school now existing, for while we put the homœopathic specific law in the foreground we do not reject or neglect any other sources of medicines either as non-medicinal auxiliaries or as medicine when the specific law is not applicable; while the allopathic sect recognise only all medicinal action *except* the homœopathic specific, although in practice they use it constantly either empirically and unconsciously or with concealment of their knowledge of it for fear of trades-union persecution. Of medicinal preventive treatment Dr. Roberts has little to say, except hygienic, in accordance with the usual poverty of resource of the allopathic sect for such an indication as a slow change of function by specifics. Here, while adopting the same hygienic directions, our school has a far wider choice of resource in curing the diathesis and preventing the formation of calculous deposits. But when once they are formed either in the kidneys or bladder they are foreign bodies, and the mission of the homœopathic specific school is now

at an end as far as their removal is concerned, and we recognise at once that the physician must lay aside specifics and resort to surgery or chemical solvents just as in the case of worms, when once their true nature was discovered, we at once gave anthelmintics in ordinary doses.

We know that the restoration of the urine to perfect health is not sufficient to dissolve and carry off calculi. Homœopathic medication can never do more than restore health. To alter the urine so as to make it more solvent than natural is to produce an abnormal state for the time being, which can only be done by the primary physiological or by the merely chemical action of drugs. We highly recommend our author's advice on this subject, and as it is too long to extract we refer to the work itself, which we hope will be in the hands of most practitioners. In the hands of homœopathic practitioners I doubt not his plan will be more successful than in his own, for the preliminary medicinal treatment and the necessary intercurrent treatment for such vital disturbance as may arise in the course of a long chemical treatment can be far better met by our remedies.

On the whole, as respects the pathology and clinical indications and hygienic treatment we can cordially recommend this work to our readers, as in those respects offering done to our hand the non-specific therapeutic observations which are intended to form a section of the projected therapeutic part of the Hahnemann Society's Repertory, in the chapter relating to the renal and urinary disorders.

But—and the but is a very large one—when we come to the medicinal treatment, our tone becomes very different. As we may expect in a text-book published under the present trades-union pressure, the treatment is according to the approved type which marks the practice of the dominant school, viz. hide-bound allopathic sectarianism, tempered by an empiricism which includes a large amount of more or less consciously concealed homœopathy. The instances where the medicines have a palpably homœopathic bearing are not commented on, and the word is never once men-

tioned agreeably to the stringent rules of the trades union, that in text-books the word must be either left out or mentioned with ridicule. The first is uniformly adopted, which is certainly the more dignified way if one makes up his mind to submit to dictation of that sort. For example, *Nitrate of Potash* is silently recommended on J. Frank's authority in some cases of diabetes insipidus, but Dr. Roberts does not explain why it is not contraindicated in all cases. In hæmorrhage from the kidneys and bladder the author recommends *Gallic acid*, *Plumb. acet.*, *Alum*, *Ergot*, *Matico*, and *Turpentine*. He gives no indication in particular for *Turpentine*, putting it merely among the "medicinal hæmostatics," while in the page before he treats of hyperæmia of the kidneys and bloody urine from overdoses of *Turpentine* and *Cantharides*. How is the practitioner to distinguish between such opposite remedies, viz. astringents and a drug causing congestion and hæmorrhage when both are ordered in the same breath for the same disease? And how does the author explain why *Turpentine* does not aggravate in all cases, and why it is not tabooed? He does not explain, and no doubt he knows any attempt at explanation would raise the awkward question of homœopathy. He also silently adopts and recommends *Digitalis* in many stages of Bright's disease in which a doctrinal and sectarian allopath could not reconcile it with his principles. The same may be said of *Cantharides* in Bright's disease, recommended at p. 437, and many such instances might be quoted. But in a practical manual such as this we do not find much fault with those omissions which may be justified on practical grounds. A more important matter is the involuntary testimony given by such a practical work to the benumbing and cramping effect that allopathic sectarianism has on the progress of therapeutics. To allow, as we cordially do, that Dr. Roberts's is a good specimen of allopathic treatment, only brings into stronger relief the evils of doctrinal sectarianism. Taking this as the best that allopathic sectarianism has to show for itself, what a poverty of resource in medicinal treatment, compared with the richness and variety of the *materia medica*, if by that we understand, as we ought

to do, the known physiological action of drugs. How few of these are utilised in practice, and how few even of the medicines known by name are utilised at all! We have here nothing but the old story of a few antipathic and a few indirectly working medicines made to do the whole work of the healer of disease, *e.g.*, in congestion and inflammation of the kidney, and the acute form of Bright's disease, we hear nothing of *Aconite*, *Gelseminum*, *Belladonna*, *Corrosive sublimate*, *Hepar sulphuris*, *Helleborus*, *Arsenic*, *Kali hydriodicum*, *Cantharis*, *Terebinthina*, *Arnica*, *Pulsatilla*, *Cannabis*, and a host of other medicines, each applicable to special varieties and stages of these diseases. In place of these we have only cupping, brisk purgatives, the warm bath, diaphoretics, counter-irritants; and in acute Bright's disease, in addition to these we are treated to venesection, *Digitalis*, *Creasote*, and *Prussic acid* to stop vomiting [mere treatment of a symptom!], *Acetate* and *Citrate of Potash* which shall be changed into carbonates in the system, and make the urine more bland. This is the whole, while of *Mercury*, *Cantharis*, and *Terebinth*, which he knows act as specific stimuli directly on the inflamed part, he knows nothing better than to entirely forbid their use even as counter-irritants for fear of their absorption. With respect to venesection we are pleased to see that our author has the sense and manliness to go against the fashion of indiscriminate abandonment of that potent agent prevalent for the last two decades. The story of this reflects small credit on the allopathic sect. As is well known the cause of it was the great success of the treatment of acute disease in the homœopathic hospitals in Vienna, but the homœopathic school did not give up bloodletting as uniformly useless or injurious, but because they could supersede its use by better remedies. This last named the allopathic sect refused to admit, and unanimously voted that the success of the homœopathic school could only depend on the unconditional hurtfulness of bloodletting, and straightway gave it up entirely without the substitutes of the homœopathic specifics to supply its place. The change of type figment is unworthy of consideration, and though

bloodletting was too often abused, still there remains a balance of utility which cannot be ignored with impunity unless its place is supplied by an equivalent. This was supplied by the homœopathic specifics, and hence the argument founded on the homœopathic statistics by the allopathic sect was from the beginning a false one, which some men who have the sense and courage to think for themselves are now beginning to find out. This by the way, for it is comparatively a small matter; the great thing shown by the above contrast of the resources of the two schools is the inference that the allopathic cannot advance as long as it remains true to its doctrinal principles, and the saying we have met with somewhere presses upon us with a conviction of its truth. It is—"allopathy has hardly a past, and has no future." In the palmy days of doctrinal allopathy, when specifics were not heard of, or only spoken of to be derided, it used to be said that a good physician could write his materia medica on his thumb-nail, and the saying is logically correct, and proves itself by the history of each decade, for the so-called advance of medicine consists (empirically used specifics apart) of little more than a substitution of one narcotic, or revulsive, or evacuant for another, which in its turn is superseded by some newer fashionable drug, which takes its place on the thumb-nail for its season. And it cannot be otherwise as long as you are bound down by a doctrine which can derive no practical lesson from the knowledge of the direct action of drugs, except to avoid them when the organ in question is diseased. The whole rich field of the direct primary action of drugs is shut out from doctrinal allopathy, while surely the game of contraries and indirect action is played out. What does it help to find a new emetic, or a new narcotic or purgative a trifle less disagreeable than the old ones? the sphere of contrary and indirect action is not thereby a whit enlarged. After all that has been said and done nobody can get beyond Hahnemann's division of the relation of medicinal and therapeutic action into three categories, viz. opposite (anti-pathic), similar (homœopathic), and some other (allopathic). And if any class of medical men will exclude any one of

these categories from philosophical study and experiment, they will be nothing but a sect, even though they number, for a time, ninety-nine out of a hundred of the profession. The more medicines are studied in their physiological action, the larger does the sphere of primary action become, and the more like real disease. So to cut off the large category of similarity is to cut off the right hand of the disease-curer, for the field is unlimited, while that of the antipathic and indirect action is narrow and circumscribed. And besides this small field, what has the doctrinal allopathist to look to except the chance discovery of specifics? For a very little reflection will show that unless you include the homœopathic action in the possible modes of applying the results of physiological experiments with drugs, you can never make the discovery of specifics *à priori*. Whatever be the ultimate nature of the actual process of cure by a directly acting specific medicine, at any rate its action on the healthy body must be *similar* to that of the exciting cause of the disease, inasmuch as it must act by its specific stimulating power on the specific irritability of the *same part* as the exciting cause. Therefore there must be to this extent at least, if to this alone, a similarity of symptoms between the two, and the question is at once opened which has been now warmly debated for two generations in the homœopathic school, viz. what is the true nature of the curative similarity? A question which cannot even arise among those bound in the chains of doctrinal sectarian allopathy. As pathology approaches to completeness, the question of homœopathicity of seat becomes clearer to the true workers in the field. Much ridicule has been cast on the homœopathic school for the minute description of symptoms required by them; but we perceive lately that Dr. Hughlings Jackson narrates a case in which convulsions began in one or two fingers of the left hand, and in this case a tumour was found in the posterior convolution of the right frontal lobe of the brain, and the author expresses the conviction that by a minute record of the course of the convulsive action, when beginning thus in a very circumscribed spot, we may hope ultimately to point out the exact

spot primarily affected in the brain when the lesion is circumscribed.

In another case of unilateral convulsions beginning in the right cheek, Dr. H. Jackson traces the seat of the disease to the cerebral convolutions near the left corpus striatum. By the same process of reasoning a similar localised effect of a drug must be traced to the same source, and thus we may attain to the accurate knowledge of the specificity of seat of the physiological action of medicines. These facts throw a light on the diagnostic value of those small and apparently insignificant symptoms which often give us such valuable hints in the choice of medicines, and enable us to cure important diseases with *Sulphur*, *Silica*, *Sepia*, and the like, on the strength of isolated and apparently unmeaning symptoms, which are found in their provings on the healthy body. *Ex ungue leonem*. When enough of men like H. Jackson lay aside their craven fear of trades-union persecution and devote the same attention to the diagnosis of medicinal disease, as he now does to that of natural diseases, and when the homœopathic law is recognised as the connecting link for therapeutics, what an advance in the scope and certainty of medicine may we not look for!

It is plain that if we can fit the closely observed action of a medicine to a similarly closely observed case of disease of the brain with convulsive actions such as described, then we should be sure of having a medicine which acted on the diseased part, *i. e.* sure of its homœopathicity as respects seat—already a great step. And if the whole morbid affection consisted in the simply altered degree of the functional activity of that exact part of the brain, so that any stimulus, acting by specificity of seat alone on that part, was sufficient for cure, then we should be able to cure that disease simply by taking into account the symptoms which were then present, if they were sufficiently numerous and characteristic. This is one mode of specific cure, and in this specificity of seat is all in all, and kind of action goes for little or nothing. But suppose at the said seat of disease in the brain the morbid state was not simply altered

activity, but depended on a syphilitic tumour pressing on it, then the case would be entirely altered, and we should find that exact specificity of seat would be of little or no use, while quality would be all in all, and to find the true specific we should have to fall back on a long train of pathological induction, in which the symptoms actually present would have little or no place in the choice of the remedy. If any one wishes to understand the true relation of the symptoms present as guides to the pathological similarity, which is the desideratum in homœopathic treatment, let him read Dr. Roberts' chapter on oxaluria, and he will then see clearly how it is that a drug may produce oxalates in the urine and yet fail, even if the homœopathic law of specifics be true, to cure a given case in which oxalates occur; and, on the other hand, how a drug may cure a given case without being able to produce oxalates, and do so strictly in accordance with the homœopathic law; in this latter case, no doubt, by removing homœopathically some elementary morbid state which formed a link in the chain of morbid action on which the deposition of oxalates remotely depended, and once that was removed the remaining parts of the disease got well spontaneously. He will see then that, guarded by Hahnemann's principle of always keeping in view "the totality of the symptoms," or by the actual recognition of the elementary morbid state to which the pathological *simile* is to be fitted, the true homœopathic treatment *never* is, and never can be, a treatment of symptoms. While the allopathic treatment often is confessedly, and always may be, by error on the part of the practitioner, a mere treatment of symptoms, which even in the latter case the homœopathic treatment cannot possibly be as long as the dose is kept below the limit of physiological action, it must either do nothing at all or act on the proximate cause.

As an instance of the manner in which doctrinal sectarianism warps the judgment and hinders one from deriving advantage from clinical experience of the profession as a whole, we may notice Dr. Roberts' dealing with *Phosphoric acid* as a remedy in diabetes. We all know that

medicine was highly valued for its specific power in that disease by Dr. Trinks, of Dresden, a man of great practical skill as a physician. Likewise there were published in this Journal the very striking cases of cure with it by Dr. Walker, of Manchester, a man also of great intellectual power, medical skill, and of high moral and professional character, and whom Dr. Roberts might have known, and probably did know, at least by reputation. Well, does he bring forward the testimony of those physicians in favour of this medicine, and give their directions and recommendations their due place? Not at all; not one word is said about them, and in respect to *Phosphoric acid*, its specific sphere of action is altogether ignored, and it is only mentioned under the head of *Acid drinks*,* and all that is said of it is the following report of the worthless experiment of Griesinger:—"He prescribed dilute *Phosphoric acid* to the extent of an ounce daily. At first, and under the smaller doses, the patient seemed to do very well; but after ten days with the full quantity the volume of the urine and the proportion of sugar slightly increased, and the general state of the patient grew worse" (p. 246). The hint here given, that a proper discrimination of the dose and stage of the disease might make *Phosphoric acid* valuable from its specific action, is lost upon Roberts as it is upon Griesinger. From the want of an *à priori* guide our author is lost in his search for new remedies in diabetes. He tells us at page 256 that he "conceived it worth trial whether some substance acting powerfully on the nervous system" might not do good; so with that sole reason he tries *Belladonna* and *Strychnia* "up to the production of physiological action" on his unfortunate patients, but with no good effect. He likewise tried, without any particular reason, *Bromide of Potassium*, *Prussic acid*, and *Calabar bean*, and pronounces them useless. That such mere fanciful and haphazard empiricism should be put forward by one of the best of the allopathic sect is a

* If a Liverpool shipowner sent his ship to sea with any other *acid drink* in place of lime or lemon juice, he would soon find out his mistake in the police court! But it would seem that to a physician of the allopathic sect the kind of acid doesn't matter.

poor sign of the state of medical science. Nor does our author's condemnation of these medicines prove that they may not be specifically adapted for some stages or varieties of the disease. Who but a mere empiric would expect a specific for the name of a disease? We may conclude with the notice of another important instance of the retarding influence of allopathic sectarianism on the progress of therapeutics. We are struck with the disproportionate bulk of those parts of systematic books which treat of the stages of disease when it is almost beyond the reach of true cure, and nothing but mitigation of pressing symptoms, or, at the most, arrest of the further progress of the disease is to be hoped for. The true disease often lies in what is called the predisposing cause which has been at work silently for months and years, and for this little or no remedy is even hinted at in allopathic sectarian books. Here, as elsewhere, the homœopathic school is far in advance, and is in harmony with the recent discoveries of physiology, which are preparing a great change in pathology and in practice.

The doctrine of specific irritability, or a kind of special and independent life of every tissue, organ, and part insisted on by Fletcher in his *Physiology and Pathology* in 1836 and 1842, is now brought home to the profession at large by the cellular theory of Schwann and the still more complete protoplasmic theory of Beale. And more particularly the theory of deterioration of the properties of the living matter of Fletcher, or the degradation of the bioplasm of Beale is being recognised as the cause of that anterior morbid state which long precedes actual disease as we recognise it. This has now been recognised in respect to some of the forms of chronic Bright's disease by all recent authors, and Roberts among the rest, although the primary nature of the degeneration of the capillary arteries throughout the system as the initial phenomenon in one form of Bright's disease is not so fully admitted by him as it would have been had Drs. Gull and Sutton's essay appeared when he wrote. At any rate, the presence of a slow process of degeneration long before the actual explosion of the kidney

symptoms appear is recognised, and what have we to oppose to that? Nothing, literally nothing, except hygienic measures! And what hope does the allopathic doctrine give that we shall ever find in the specific action of drugs a remedy to counteract that specific degeneration? None, literally none. We must go on stumbling at haphazard to the end of the chapter, experimenting at the dictates of mere caprice, as we see Roberts does in diabetes. Now, let any one read the proving of *Phosphorus* in this number, and we see among the effects of its slow action on the healthy body a fatty degeneration of the smaller arteries, likewise interstitial hepatitis resulting in granular atrophy of the liver, in fact, cirrhosis, ultimately causing hyperæmia of the mucous membrane of the stomach and intestines, indurative hyperæmia of the spleen, and ascites. To the allopathic sectarian of what value is this information? Of none, save that he must avoid *Phosphorus* in such cases, but to the true physician who takes in the possibility of cure from all the modes of primary action of medicine it gives a hint of incalculable value. It induces him to try to fill up that precious interval of possibly true cure in Bright's and other chronic diseases of degeneration by a specific treatment which there is good ground to hope may act on the germinal faculty of the protoplasm of the diseased tissues, and restore it to healthy action before structural change has taken place. Without the conviction of the homœopathic law, what physician would at mere haphazard put his patient on very small doses, say $\frac{1}{1000}$ of a grain of *Phosphorus* for many months when he has apparently little to complain of? The supposition of the chance discovery of specifics is shown to be out of the bounds of possibility when we thus see the true meaning of specifics and their real sphere of operation. Of all this and of all treatment adapted to the specific cure of the first stage of chronic Bright's disease, we find nothing in such a book of Dr. Roberts's, but we would direct his attention to the subject as demanding attention, and also we would recommend to his notice the excellent proving of *Nitrate of Uranium* by Dr. E. Blake, in the *Hahnemann Materia*

Medica. Here the degeneration of the kidney, similar to what appears in chronic Bright's disease, is shown to be within the sphere of the primary action of *Uranium*, which is therefore recommended *à priori* as a remedy. This work may be unknown to him, as having been left unnoticed by the sectarian allopathic journals in pursuance of their systematic plan of keeping unknown to the medical public every work of merit in which the homœopathic principle is allowed to have its share of truth, while they notice any trumpety domestic or worthless pamphlet which can easily be made ridiculous to bolster up the systematic misrepresentation of the true nature of homœopathy which they palm off on the public. Dr. Blake's work does for *Uranium* what Dr. Wegner's does for *Phosphorus*, with the addition of subjective provings. It is, therefore, as far as it goes, complete in form, while Wegner's is merely the morbid anatomy without the clinical history, and, so far, only half a proving. It is probably that incompleteness which secures its admission into a sectarian journal, like Virchow's *Archiv*; just as Harley's and Fraser's partial imitation of homœopathic provings find favour with the English sectarian press because they carefully avoid the recommendation of any homœopathic use to be made of them.

Clinical Lectures on Pulmonary Consumption. By FELIX VON NIEMEYER, M.D. Translated, by permission of the author, from the second German Edition, by C. BRÜMLER, M.D., for the New Sydenham Society.

THERE are many opinions expressed in this work which, to say the least, are not those held by pathologists and writers on therapeutics of the present day. But, independently of what may be called the controversial part, there is much in the volume which will be generally recognised as valuable contribution to the science and art of medicine; and the debateable ground is gone over in a way which cannot offend even the strongest maintainers of

the old doctrines. The earnestness and scientific spirit displayed by the author are so manifest that, even where he does not make converts to his views, he impresses his readers with the conviction that those views have been elaborated after the most diligent collection and observation of facts, and that, before contradicting him, those facts and his deductions from them must be carefully studied and tested.

Till the last few years the dominant opinions upon the subject of pulmonary phthisis have been those of Laennec and Louis, of Williams and Clark. Those opinions have been to the effect that phthisis is a tuberculous disease; that it is a constitutional and hereditary one; that it is closely allied to if not identical with scrofula; that it cannot originate in any external cause, as acute or chronic inflammation of the lung tissues, hæmorrhage, or irritating dust or vapours; that inflammation plays no part in its production; that tuberculous and caseous matter are different forms of the same thing; that phthisis is the result of a specific new growth, and that cavities are caused by the softening and evacuation of that growth; that when it follows bronchitis and pneumonia there has been pre-existing tubercle, and that those diseases are of a specific character and to be classified as "tuberculous pneumonia" and "tuberculous bronchitis;" that hæmoptysis argues the presence of tubercle and is one of its effects; and that the disease is essentially incurable.

In contradiction to these generally entertained views Dr. Niemeyer maintains that phthisis pulmonalis is not necessarily a tuberculous disease; that it is not a constitutional one; that it is not hereditary; that it has no relationship to scrofula; that its chief exciting causes are pneumonic inflammation especially of the chronic character, irritating dust or vapour, and hæmorrhage; that inflammation plays a very prominent part both in its production and extension; that tuberculous and caseous matter by no means signify the same thing; that the disease is not the result of a specific new growth, as Laennec maintained, and that cavities are not owing to the softening and evacuation of

that growth ; that there is no such thing as pneumonia or bronchitis of a specific character ; and that when tubercle is detected after either of those diseases it does not argue that tubercle pre-existed ; that hæmoptysis is a cause rather than an effect of phthisis ; and that the disease is by no means incurable in the absolute sense believed down to the present day.

Before giving the arguments which Dr. Niemeyer advances to establish and illustrate his views, it must be premised that he attaches importance to a distinction he draws between pulmonary phthisis and tuberculous phthisis. The latter, he maintains, is a rare disease, and characterised by fever and less intense symptoms than the former. Fever, high temperature, emaciation, dyspnoea, and comparatively little cough and expectoration, and pain, are its leading features, and, on examination after death structural changes in the lung are by no means great, as the physical signs before death were not at all decided. Phthisis pulmonalis, on the other hand, is characterised by more urgent symptoms, and the physical signs are more marked, the cough and expectoration and pain greater, and the destruction of tissue, as proved on post-mortem inspection, involving a larger portion of the lungs. But whereas the latter disease, if treated early and well, admits of cure, the former disease is incurable. What our author is anxious to do is to draw attention to pneumonic phthisis so as to prevent its being confounded with tuberculous phthisis, which, he maintains, is the rule at present ; and he is all the more anxious to convert others to his views as their practical bearing is so manifest. Pulmonary phthisis, being considered to be tuberculous, is concluded to be necessarily incurable, and means, therefore, are not taken, which, on the belief that it was a remediable disease, would assuredly be had recourse to. That it is remediable Niemeyer believes, and, consequently, he urges strongly the necessity of taking every precaution of a remediable and preventive character as soon as its existence is recognised.

In the limits of a review it is impossible to go over very

much of the ground touched upon in this volume. We may, however, give our readers an idea of the manner in which Niemeyer endeavours to prove the fallacy of the prevalent views and the correctness of his own on some of the controversial questions above alluded to.

As to the signification of phthisis, he says—"The error in which Laennec and his followers were entangled did not consist in their regarding tubercle as a new growth, but in the fact that they considered those condensations of lung-tissue, which have quite a different origin, to be also products of a development of tubercle. This confusion originated chiefly in the *cheesy metamorphosis* of the originally grey and transparent tubercle being accepted as one of its specific peculiarities, and as a sign from which the tubercular nature of any substance which underwent this transformation might be inferred. From this point of view one was justified in regarding the extensive consolidations in phthisical lungs which were found side by side with miliary tubercles, and which, having been at first grey and transparent, had afterwards become yellow and cheesy, as a diffuse growth of tubercles, or as extensive infiltrations of the lung with tubercular material. But since pathologists, especially Virchow, have shown that substances of the most varied kind which have not the least relationship to tubercle, such as older cancerous tumours, lymphatic glands swollen by hyperplasia of their cells, hæmorrhagic deposits, encapsulated masses of pus, &c., undergo the very same cheesy transformation as miliary tubercle, the fact that those diffuse consolidations of the lung become yellow and cheesy can no longer be admitted as a proof of their tubercular nature. Laennec's whole theory of [infiltrated tuberculosis, or tubercular infiltration, which was supported by that criterion alone, has thus lost its foundation. In the present stage of science there is but one kind of tubercle—miliary tubercle, and but one form of tuberculosis—miliary tuberculosis; and all those changes which, since Laennec, have been designated "*infiltrated pulmonary tubercle*," are the product of chronic, especially of catarrhal pneumonia. It is to be hoped that the terms 'to undergo

the tubercular change,' 'infiltrated tubercle,' 'tubercular infiltration,' which have caused so much confusion, and which I have zealously opposed for years, will at last be given up."

So far from tubercle being an essential in phthisis, it is, in Niemeyer's opinion, a mere accident, rather rare than otherwise, and, when it is present, it has not preceded the phthisis, but succeeded it. He does not, however, go so far as Virchow, who taught that the doctrine of miliary tuberculosis is a mistake, and that miliary tubercles in most cases are bronchitic, peribronchitic, or pneumonic deposits. Niemeyer, on the contrary, maintains that the yellow cheesy deposits occurring in the form of miliary granules are tubercles, if there are grey miliary tubercles in close proximity to them in the lungs, and if they are found in other organs besides.

The most frequent cause of phthisis he believes to be chronic catarrhal pneumonia, and that not of a specific kind. It is one of the commonest of diseases, and is constantly mistaken for tuberculosis. This inflammation leads to the accumulation in the alveoli of "young, indifferent, round cells." These cells, crowded together, if they do not undergo fatty metamorphosis, and "become liquefied and reabsorbed," shrink, lose their vitality, indurate, and result in the consolidated masses, greater or smaller, detected before death, and found afterwards on post-mortem examination. Each consolidation may remain for years without change. But, in many cases, there is softening and breaking up of this dense structure, and then the formation of a cavity, and the results to which it leads—hectic, emaciation, and death. This is phthisis pulmonalis, according to our author, in the common acceptance of the word. But tubercle may have had nothing to do with this disease in any of its stages; and yet Niemeyer does not deny that there is a "causal connection" between tubercle and phthisis. "If there are only a few tubercles," he says, "they are almost exclusively found in the immediate neighbourhood of cavities or cheesy deposits, and if the tubercles are scattered all over the lungs, we can nevertheless, as a

rule, not be mistaken in assuming that they have spread from those places, because near them are found the most numerous and apparently oldest tubercles." Allowing this, however, he does not admit that tubercles and phthisis mean the same thing as Laennec insisted.

With regard to scrofula, Niemeyer's definition of that term is—a disease which originates "in the inflammation and ulceration of a lymphatic gland which had undergone cell-proliferation, and usually also cheesy transformation." He says that the kind of "vulnerability," or want of resisting power, which, in the adult, may result in tuberculosis, in childhood and infancy betrays itself in scrofulosis; and the relationship between phthisis and scrofula he sums up in the following way:

"If we do not take into account those rare cases in which cheesy bronchial glands, after having softened and broken down, open into a bronchus and lead to a peculiar form of pulmonary phthisis, we can sum up the relation which, according to our opinion, exists between scrofulosis and pulmonary consumption in the following sentences:—

1. Adults who in their childhood have been scrofulous have, unless the vulnerability on which scrofulosis depends has disappeared, a well-marked tendency to pneumonia, terminating in cheesy infiltration and pulmonary consumption. 2. In individuals who formerly were scrofulous, persistent cheesy bronchial glands give rise, in some instances, to the development of tubercles in the lungs, and to a *tubercular* phthisis. 3. Individuals in whom an extinct scrofulosis has not left behind either an increased vulnerability or cheesy masses in the lymphatic glands, possess no greater disposition to pulmonary phthisis than individuals who have never been scrofulous."

As to the question of the hereditariness of tuberculous phthisis, Niemeyer speaks in an almost dogmatic tone against that very commonly accepted belief, insisting upon a condition of proof which it would be difficult, if not impossible in many cases to offer. To use his own words, "I do not hesitate to say, in spite of all assertions to the contrary, that it is by no means sufficiently proved that tuberculosis,

in the strictest sense, is an inheritable disease. Speaking exactly, an inherited tuberculosis can only be assumed where the father or the mother were, at the time of conception, suffering from true tuberculosis, and where the child does not so much get a disease which leads to tuberculosis, but is affected with tuberculosis without any intermediate affection."

He allows that *pulmonary phthisis* may be inherited, but only in a restricted sense—not directly, only indirectly. It is not the disease, he says, which descends from parent to child, but only the disposition to it through an inherited vulnerability, which vulnerability may not be in consequence of the phthisical constitution of the parent, but may spring from a constitution which has been deteriorated by syphilis or any other debilitating malady, or simply from an old one. Again, he insists strongly on the fact that phthisical parents may not give birth to children with any proclivity to their disease, and also on the fact that "an innate or inherited tendency to phthisis" may disappear. These arguments appear to him sufficient for the purpose of reasonably doubting the almost universally entertained view of the hereditary nature of phthisis. Belief in it, he insists, fetters the hands of those who hold it, making them despair of a cure in cases admitting of a nearly absolute one.

Another of the controversial points Niemeyer is quite as decided upon, and quite as opposed to common opinion, is the question of *diathesis*, on which he says that it is "as unproved as it is dangerous." To shut the eyes to the many exciting causes of phthisis, and say that, if there is not the consumptive constitution, there need not be any fear of the action of those exciting causes, must often and does often lead to want of due precautions, to wrong treatment, and a fatal result. On the contrary, phthisis may more truly be said to arise always from the action of some external or accidental cause or causes, notwithstanding Lebert's decided assertion that they (the causes) have no influence in producing the disease. Lebert says, "It is important that, as a rule, no particular cause can be detected for the com-

mencement of chronic pulmonary tuberculosis, that 'catching cold,' in particular, seems generally to be without any direct influence; and this is so true, provided we are only not satisfied with the vague stories of the patients, but examine carefully and strictly into their previous history, it may be concluded that a cough whose significance is not clear does *not* depend on tuberculosis whenever it can be made out with certainty that it has commenced with a cold in the head, or angina tonsillaris, in a word, as an acute catarrh of the mucous membrane after taking cold; and the *popular opinion that a neglected cold leads to consumption is erroneous.*" There can be no doubt that Lebert's opinion is very generally, if not universally, held.

Niemeyer urges that "all influences which are followed by catarrh of the bronchi, and by hyperæmia of the lungs," are causal in the production of phthisis, especially, of course, in such as have a tendency to pulmonary weakness. Among such exciting causes he enumerates muscular exertion, drinking cold water when the body is heated by exercise, irritation of the lungs by foreign bodies, such as coal-dust or iron-dust, and hæmoptysis. On this last cause of phthisis he enlarges a good deal, and, as his views are greatly opposed to prevalent opinions upon it, and as the question is one of great practical importance, we think it right, even at the risk of prolonging this already lengthy review, to give his summing-up upon it in the words of the translator.

"1. Abundant bronchial hæmorrhage occurs more frequently than is commonly admitted in such persons who neither are consumptive at the time of the hæmorrhage nor become so afterwards. 2. In many cases abundant hæmorrhages of the bronchial mucous membrane precede the commencement of pulmonary consumption without any causal connection existing between the hæmorrhage and the disease of the pulmonary tissue. Here the two processes have their origin in the same source, namely, in the combined disposition of the patient both to bronchial hæmorrhage and to pulmonary consumption. 3. Capillary hæmorrhage, either bronchial or pulmonary, does not

unfrequently lay the first foundation for pulmonary consumption in persons in whose lungs neither tubercles nor pneumonic deposits previously existed; this is brought about by blood which remained behind in the alveoli, as well as the products of the inflammation which this blood caused, undergoing cheesy metamorphosis. 4. In the same manner do bronchial and pulmonary hæmorrhages not unfrequently accelerate the course of an already existing pulmonary consumption. But it is only in rare cases that they occur at a period already when the lung-disease is still latent. 5. In some rare instances the hæmoptysis is not the cause but the consequence of the pneumonic processes which, in their further course, lead to consumption. Such cases are easily recognised, because a general high pyrexia, and other symptoms of inflammation, accompany the onset of the hæmoptysis, or even precede it. 6. That portion of the blood which remains behind in the alveoli, and which, together with the pneumonic infiltration, undergoes the cheesy metamorphosis, not unfrequently gives rise to an eruption of miliary tubercles." It will be seen that the drift of these observations is to the effect that hæmoptysis is a cause of phthisis, and only in rare cases a consequence of that disease.

In the chapter on the symptoms of phthisis, Niemeyer enters very much into detail, and describes minutely the two forms of phthisis, pulmonalis and tuberculosis, giving ample means for diagnosing both.

The treatment he insists will be greatly simplified and much more successful if his views on the pathology of the disease become prevalent. Though the tuberculous variety of phthisis is a fatal disease and admits of nothing more than an imperfect palliation, it is a much less frequently met with disease than pneumonic phthisis, which admits of alleviation in all cases and cure in many. When all prophylactic means have failed and the disease has fairly established itself the first great indication our author impresses upon his readers is to arrest the fever, for there is no chance of improvement or recovery as long as fever continues. The means he recommends to secure this end

are rest in bed, poultices on the chest, and *Digitalis*, *Quinine*, and *Opium*; the said means to be discontinued as soon as the fever disappears. Diet he attaches much importance to, and he prefers carbonaceous to nitrogenous food for his patients, and the more fat they can take the better, he says. Unskimmed milk "cannot be too warmly recommended." *Cod liver oil* should be given whenever the stomach will accept it, but he prefers prescribing malt extract. Grapes he approves even to the extent of many pounds a day. As to climate, he prefers that of Cairo to any other in all curable cases. In incurable cases he condemns strongly the practice of removing the patients from the comforts of home.

We have said enough and quoted enough to give more than a general idea of these lectures on phthisis. Though the pathological views they enforce are not altogether original, Niemeyer was the first to make them the subject of clinical teaching. The doctrine of inflammation invariably being an accompaniment of phthisis was laid down by Dr. Addison in 1845, in a paper which he read before Guy's Physical Society, in which he said that "inflammation constitutes the great instrument of destruction in every form of phthisis." Dr. Addison also described a variety of the disease to which he gave the name of *pneumonic phthisis*, a variety which might have tubercle as a complication but not as an essential, and which was attended with more urgent symptoms and with more marked physical signs. He also doubted whether tubercle was ever the cause of serious lung disorganisation or of any form of phthisis, expressing his strong belief that inflammation, and inflammation only, accounted for all lung changes, even when tubercle was present. He maintained, besides, that the fewer and less marked the physical signs in a case of this disease the more serious was the case. Dr. Alison, of Edinburgh, at a date still earlier, taught in his work on the *Practice of Medicine* that pneumonia often complicated, if it did not cause, phthisis. Though this proves that some of Niemeyer's views, which we have given in this review, were held before his time, still no teacher has made them the

subject of such earnest clinical teaching. He was the first to point out their great practical importance, and to show that most forms of the disease, which has been considered as incurable as cancer, admit of much alleviation, of a greatly prolonged duration, and even of complete cure. If he has not proved his case to the satisfaction of all, it can safely be said that his teaching is full of thought-stirring and suggestive material, and that it will prove a seed which will bear good fruit.

The New Zealand Homœopathic Gazette. Edited by F. A. HARTMANN, M.D., M.B.H.S., Auckland.

WE have had much pleasure in receiving the first two (May and July) numbers of this latest addition to our periodical literature. It is, of course, semi-popular in character, but contains valuable practical contributions by its editor and Dr. Deck, of Dunedin, with some of which we intend enriching our own pages, as we shall not thereby be robbing theirs. It bodes well for homœopathy in New Zealand that it should be so well represented as this publication denotes it to be.

CLINICAL RECORD.

*Hospital of St. James at Paris.**

From the opening to the 15th January, 1872, by Dr. MILCENT.

(Concluded from p. 804, Vol. XXX.)

Cold (women's ward 1, bed 2).—Jane Cumbon, aged 24, cook, lymphatic temperament. Admitted 22nd March; dismissed 3rd April.

This young woman had an attack of bronchitis a fortnight before her admission. On examination there were found sibilant râles in both lungs, pretty strong fever, spasmodic cough, with vomiting of food and tickling in the throat. She got only beef tea and milk, and *Drosera* 6, afterwards *Drosera* 8. On the 3rd April she left the hospital completely cured, save a slight hoarseness.

Remarks.—A very simple affection, and a well-known action of *Drosera*, indicated in this case by the characteristic array of symptoms: spasmodic cough, with vomiting of food; cough provoked by tickling in the throat.

Bronchitis, severe form (women's ward 2, bed 1).—Miss Lequi, aged 78, engraver. Sanguine constitution; strong. Admitted 8th March; dismissed 15th March.

The patient applied a few days ago at the dispensary, complaining of vague and constrictive pains in the chest, with fits of coughing and copious expectoration. On the 8th March she was admitted into the hospital. The fever is pretty strong; pulse 90. Exaggerated sonorousness on percussion, especially in the front of the chest. Mucous rattles in both lungs, with subcrepitating râles at the posterior and superior part of the left lung.

* *Bulletin de la Soc. Med. Hom. de France.*

Rust-coloured sputa, with streaks of blood. The diagnosis is capillary bronchitis. *Bryon.* 12 is given. The fever rapidly subsides, the sputa diminish, and three days after her admission she can get up. On the 15th she goes out in full convalescence, and since then she has been quite well.

Remarks.—This affection yielded rapidly to the usual treatment—*Ipec.* and *Bry.* in alternation—and the cure was so quick that we may call special attention to it. Does any one believe that the capillary bronchitis of people seventy-eight years old are cured with vesicatories, *Antimony*, and leeches, in less than a week? The mortality in hospitals from capillary bronchitis is much greater than that from pneumonia. Idiopathic capillary bronchitis, as well as that which is symptomatic of measles or whooping-cough, is readily cured by homœopathic treatment, whatever be the age of the patient; this is a strong clinical proof of the superiority of the homœopathic treatment. Our adversaries have never yet dared to allege that capillary bronchitis is a disease that got well without treatment, but probably they will do so before long.

Gumboil (women's ward 2, bed 4).—Alphonsina Didier, aged 18, cook. Admitted to the hospital on the 7th March affected with gumboil. The skin of the face is swollen, tense, hard, shining, of a violet-red colour. Fluctuation is felt at the border of the inferior maxillary bone on the right, and the abscess is owing to caries of the first small right inferior molar. The disease is two days old, and the patient cannot open her jaws. Low diet. *Cham.* 3 and *Merc. sol.* 3rd trituration alternately every hour; the right cheek is covered with glycerine containing *Merc. sol.* 3. The first three days the fluctuation increases, and it is thought that the abscess must be opened. But on the afternoon of the 10th March the fever declines. The following morning the skin is less tense, and the swelling seems to be about to be resolved. *Cham.* and *Merc.* continued. The patient is able to open her mouth better. She begins to eat again; and on the 14th March, all traces of the gumboil having disappeared, the carious tooth is extracted.

Remarks.—This very common affection, a suppurating gumboil, offers a certain amount of therapeutic interest. I allude to the absorption of the collection of pus under the influence of *Mercurius*. This is by no means an isolated instance in the annals of homœo-

pathy. Dr. Milcent gives in his quarterly report a case of suppurating blennorrhagic bubo, ending in absorption under the influence of *Merc. sol.*

Mild metritis, terminating in metrorrhagia (ward 2, bed 1).—Adela Blin, aged 30, married, no profession. Admitted 4th April. Has never had any children. Subject to hæmorrhoids. Obstinate constipation, only yielding to enemata. Menstruation regular, copious, lasting seven or eight days. Ill for a month. The illness commenced with pain in the abdomen, brought on without obvious cause at the time of the catamenia, which were normal. The menses, which were near their end, stopped abruptly, and were replaced by an inodorous leucorrhœa; scalding on passing water; in the hypogaster a constant pain, sufficiently severe to keep the patient in bed. This state continued for a fortnight without vomiting, stools, or fever. On moving, the pain becomes localised in the right hypochondr, and spreads to the arm of the same side. Then, at the end of five days, pain of the same kind was felt on the left side; unable to make the slightest movement or to bear pressure, or even a touch, without crying out. On the 26th the menses recurred at the normal period, copious and accompanied by sharp colic. This state lasted until 4th April. On examination there is felt an ill-defined hardness in the left iliac fossa. Percussion shows nothing abnormal in the right flank, which is supple and free. Examination per vaginam, made after the cessation of the hæmorrhage, shows a perfectly healthy state of the uterus and its appendages. *Secale corn.*, 1st trit. Quarter diet.

5th April.—The same state. *Ut supra.*

6th.—The discharge and pain very slightly diminished. *Platina* $\frac{1}{2}$.

7th.—Same state. *Ut supra.* Motions of the bowels by means of enema. The stools are hard, lumpy, black.

9th.—Discharge stopped and hardness diminished. No more pain. Since then recovery has gone on rapidly. There only remains a little leucorrhœa. During all the time the patient retained her appetite and had no fever; temperature in the evening never above 37·4° (99·3° F.).

Remarks.—To recapitulate, this woman had naturally very copious catamenia, and was, moreover, subject to hæmorrhoids. She had suffered for a whole month from pains in the hypogaster,

at first more to the right, afterwards on the left side. These pains, accompanied by considerable leucorrhœal discharge, vesical tenesmus, and obstinate constipation, were so severe as to keep her in bed. When admitted into the hospital she was suffering from copious metrorrhagia, which had already lasted ten days, and which continued for five days longer. Moreover, an engorgement was felt in the left side of the hypogaster. But this engorgement was ill-defined, and disappeared completely after a few days; there was at the same time a very long-standing constipation. If we add that examination after the discharge had ceased showed the integrity of the neck of the womb we may be permitted to believe that this engorgement was only a stercoral tumour. The uterine pains, which had kept the woman in bed for a month, precluded the idea of a simple metrorrhagia. The precise diagnosis seems rather to have been *mild metritis* (acute of authors), *happily terminated by a metrorrhagia*.

Peri-uterine hæmatocèle (women's ward, bed 4).—Mrs. Chade-neux, aged 33; dressmaker, admitted 27th March, dismissed 27th April.

Nervous temperament. Health generally good. Catamenia always too soon and scanty. Has had two children.

On the Sunday previous to her admission she had felt at the period of her menses a violent pain in the left groin, which made her keep her bed. No fever came on, but in the night she had severe vomiting of glairy and bilious matters, and three solid stools. On Monday and Tuesday she felt better, and resumed her work on Wednesday. The symptoms of Sunday immediately reappeared, and she was brought here on the 21st.

Pulse small, 98; temp. 37·8°; face yellow, drawn; abdomen distended with flatulence and very tender to touch. Examination by palpation and pressure shows a tenderness extending from the left superior spine of the ilium to the left border of the uterus, more distinct towards its inferior and dependent part, where it forms a hard solid mass, not fluctuating, and quite dull on percussion. Urine passed easily. Leucorrhœa. Low diet and *Aconite* 2. In the evening febrile aggravation. Temp. 40·8°.

23rd.—Pulse 120; temperature in morning 39·2°. *Ut supra*. Temperature in the evening 39·6°. Some attempts to vomit.

24th.—Pulse 108 ; temp. 38·8°. Examination per vaginam shows a hard swelling projecting into the posterior cul-de-sac of the vagina. The finger applied to the cervix allows the womb to be moved, the motion being perceptible through the abdominal walls. The tumour, on the contrary, remains immovable. Diagnosis: retro-uterine hæmatocele. *Ut supra*. Temperature in the morning 39·4°.

During the four following days the temperature was always one degree higher in the evening than in the morning.

28th.—Fever much abated ; pulse 100 ; temp. 38·2° ; abdomen less distended, no longer painful. The engorgement has diminished, and the tumour is easily perceived on the left border of the uterus, and it seems to have risen up to the walls of the abdomen. On examining per vaginam the posterior cul-de-sac is still filled up, but the cervix has ascended. The patient has a more liberal allowance of food, and the *Aconite* is continued. The amendment makes rapid progress. On the 10th all the engorgement is gone, no more functional troubles. The tumour shows itself to be very distinctly circumscribed, and adherent to the left side of the uterus. *Arnica* 6 to the 15th, then *Bellad.* 8. Catamenia returned on the 23rd, and the patient was quite well on the 27th, though she still had a very considerable sanguineous tumour between uterus and rectum. It can be felt very distinctly behind the cervix. The cervix is very much pushed forward against the symphysis pubis.

Remarks.—I think the diagnosis of *peri-uterine hæmatocele* is undoubtedly correct. The symptoms were: tumour rapidly formed, occupying the posterior and left lateral aspect of the womb, descending betwixt uterus and rectum, and pushing the neck of the womb beneath the pubic arch. The hæmorrhage appears to have occurred on two occasions, on the Sunday and following Wednesday ; it was attended by violent pains and bilious vomiting, but not by fever.

The fever only came on on the fifth or sixth day of the disease ; it rapidly yielded to *Aconite*, and the tumour became the seat of an absorbent action, which was not ended a month after the commencement of the disease.

Only an abscess of the broad ligament could have produced a tumour comparable to that presented by this patient, but this abscess could not in the first few days have penetrated between

the rectum and cervix uteri. Then the febrile state would have existed from the commencement; the course and termination of the affection would have also been very different.

Pelvic peritonitis is ushered in with a febrile action which did not exist in this case; the hypogastric tumour is not so large, and the indications given by digital examination are different. It is in the right or left cul-de-sac that we perceive the engorgement accompanying pelvic peritonitis; this swelling is subject to variations which have been very well described by Bernutz, and which were wanting in this case. Besides, the course and duration of pelvic peritonitis differ much from those in this case.

Aconite 2, 6 drops in 12 spoonfuls of water, a spoonful every two hours, exercised a great influence on the course of the acute phenomena.

Belladonna was the remedy which acted best in promoting the resolution of the tumour.

Chronic rheumatic endocarditis, insufficiency of the mitral valve (men's ward 1, bed 1).—Van Beynem, a shoemaker, aged 35. Admitted 25th January, dismissed 2nd April.

Lymphatic temperament; no venereal or alcoholic excesses; had typhoid fever when 18. When 30 had an attack of rheumatism which confined him to bed for six weeks. Three years ago the patient felt a sudden violent pain in the heart, which grew rapidly worse and prevented him working. Since that time he has great difficulty in walking, is made quite breathless by going up a few steps, and is obliged to give up his occupation. He has been variously treated at the Charité and Pitié Hospitals without the slightest benefit.

On the 25th January he came to the hospital. General debility; constant fits of oppression of breathing; pulse rather slow, but irregular, with an intermission every fourth beat. Heart hypertrophic, its apex directed to the left. The first sound is a bellows sound at the apex. The soufflé is rough, scraping, and trenches somewhat on the second sound, which is otherwise normal, and easily heard at the base. No œdema; no respiratory or digestive troubles; but he had expectoration of thick rusty sputa, the source of which cannot be detected by the stethoscope, and which recurred several times in the course of the disease. Diagnosis: insufficiency of mitral valve. Light diet and *Aconite* 3.

This medicine is continued until the end of January, the dilutions being varied. The dyspnœa diminishes during the day, and he has only one or two fits of it at night. The pulse is registered by Marcy's sphygmograph. The first days the plateau is only a simple point, and the descending line is abrupt, almost vertical, which indicates a great lowering of the arterial tension. The graphic traces also reveal a variation at every fourth pulsation. The ascending line, which, in the three other pulsations forms an acute angle with the descending line, is abruptly elongated, and thus forms a very obtuse angle. By the end of the month these intermissions had disappeared, the traces are more regular, and the bellows sound had lost somewhat of its scraping and strident character.

In the first fortnight of February *Aconite* was continued in the 1st, 3rd, 6th, and 18th dilutions.

The days are good; the patient can rise and walk about; he still has occasional attacks at night.

5th February.—The bellows sound, without obvious cause, reappears with its original harshness, and the sphygmograph shows the intermissions already described.

Amendment ensues on the 6th. The descending line seems even to become elongated, but the plateau is still always very narrow. About the 12th the *Aconite* seems to have exhausted its action, and recourse is had to *Phosphorus* 6. The oppressions return by day as well as by night; the bellows sound does not resume its former intensity, but the pulse is again irregular, intermitting, and the descending line forms with the ascending line only a straight line cut in by a bend representing the plateau. The arterial tension is becoming too strong, and at the same time the patient begins again to spit greenish sputa tinged with blood. *Bryon.* 6 is given.

The oppressions decline, the bellows sound also, and the sphygmographic traces are more regular. The descending line is still rather abrupt, but the plateau becomes more oblique. At the end of February the expectoration is rare and the patient feels much better. In the early days of March *Arsen.* in low dilutions is given. *Aconite* is again resorted to, all with not much success. The sound becomes scraping occasionally, and the traces resume their irregularity. All medication is discontinued for some days, and on the 15th of March *Arsenate of Antimony*,

3rd trit., is given. This remedy is given until the patient leaves the hospital, passing successively to the 2nd and 1st triturations. It causes a great amelioration. The bellows sound diminishes much; the traces indicate an almost normal pulse; the descending line is sufficiently elongated; the plateau is represented by a regular line, not too short; the intermissions have completely disappeared. The patient goes out during the day, walks easily, and feels no oppression except when going upstairs rapidly. The 2nd April he at last returns to his work, which he had discontinued for three years; the amelioration has continued since he left the hospital.

Remarks.—This is an example of rheumatic endocarditis limited to the mitral valve, but unfortunately at quite a chronic stage. *Aconite* only caused a little amelioration. The *Arsenate of Antimony* caused the amelioration to advance a step; but, to sum up, the patient quitted the hospital with a lesion which, one day or other, will pull him up again. However, the compensating hypertrophy is well established, and if the patient carefully avoids all the causes that could produce a recurrence of the endocardial inflammation he may be able to live and work for a long time.

Hysteria (women's ward 1, bed 2).—Mrs. Malbrun, aged 29, washerwoman, married. Admitted 15th February; dismissed 29th February.

A little woman, of nervous temperament and odd character. Catamenia regular; has never had any children. This was a case of true hysterical state, with all its accompanying nervous phenomena. The patient complained at one time of spasms, at another of general illness; sometimes wandering pains suddenly appeared and disappeared. There is no globus hystericus, and pressure on the ovaries does not cause a convulsion. On the left half of the body there is almost complete analgesia and anæsthesia. The cornea on this side is not sensitive to pricks with a pin. The two medicines administered were *Tarentula* 12 and *Zinc. acet.* 3. The patient is still very impressionable when she leaves the hospital, but the attacks of weeping and suffocation do not appear any longer, and she has only spasms at rare intervals. She returned to her family, resumed her occupations, and her nervous state became calmer every day.

Remark.—This case does not offer much interest; the favorable

action of *Tarentula* and *Zinc* in hysteria is too well known to be dwelt on.

Common fever, phthisis, and polyuria (women's ward 2, bed 2).—Henrietta Martin, aged 31. Admitted 30th January; died 18th February.

This woman was brought into the hospital in a deplorable state. She can no longer sit up; the rattles which come up into her throat and the fits of coughing prevent her speaking; the pulse is small, miserable, tumultuous; the respiration is panting. Rhonchus and rattles in both lungs. Abdomen distended. Thirst intense; she drinks six quarts of tisan per diem, and passes about as much urine. She constantly lets her stools escape in the form of fetid, pap-like fæces. Formerly fat, she is still bloated, but extremely thin. For a month she has been unable to swallow any solid food. The catamenia have been absent three years, at which time the disease commenced. The prognosis is hopeless. As regards the diagnosis, in addition to the phthisis one might, on account of the large quantity of urine, suspect diabetes. But the chemical analysis shows this not to be the case; it is nothing but polyuria. A curative treatment is out of the question. *Arsen.* 6 and *Phos. ac.* 3 are given, indicated by the diarrhoea and thirst. The latter symptom diminishes during the two following days, the diarrhoea also improves, but the symptoms of asphyxia increase every day, and she commences to sink on the 14th February. The voice could no longer be heard, and she died on the 18th February. *Carb. v.* 6 seemed to arrest the progress of the asphyxia a little, but it soon lost all power.

Remarks.—A cachectic state quite beyond the resources of art. The polyuria diminished under the influence of *Phos. ac.* There could be no question of meagre diet in the case of this dying woman.

Common form of phthisis (women's ward 2, bed 1).—Widow Barthes, aged 36, servant. Admitted 12th March; dismissed 30th March.

Has had five children; menstruation irregular. Great emaciation; loss of appetite the last two years. No information as to hereditary tendencies.

During the siege of Paris this woman was seized with bronchitis, which was at first neglected. Soon the cough became

continued, so much so as to prevent sleep. Still the patient continued at her work ; but on the 9th March she was affected with a violent pain in the left side, which compelled her to keep her bed. She came to the hospital on the 12th March, said to be affected with pleurisy.

An examination did not bear out this diagnosis. Moist râles and blowing are perceived at the top of the right lung. Bronchophony. It is a case of phthisis tuberculosa in the second stage. Scarcely any fever ; no sweats or diarrhoea.

The patient is put on meagre diet, and *Bryon.* 12 given on account of the sputa, which are tinged with blood. This medicine is discontinued after two days in order to give *Nux vom.* 12 for the purpose of combating certain little intermittent febrile actions which the patient had been subject to before her admission to the hospital, and which recur in the afternoon with a certain degree of intensity. The attacks ceased on the 20th, and, the cough showing a tendency to come on in fits, *Drosera* 6 is given. On the 27th this medicine is replaced by *Ipec.* 6 and *Bryon.* 6 on account of some erratic pains on the left side. The patient left the hospital on the 30th, not cured, but in a good way towards recovery. The appetite, sleep, and strength returned, and the cough diminished considerably.

Remarks.—This patient was kept for eighteen days on meagre diet ; her strength, far from diminishing, increased as the local symptoms were relieved ; she left the hospital in a very satisfactory state.

Phthisis, common form (men's ward 1, bed 2).—Lagarde, aged 46, formerly musician in an infantry regiment. Admitted 20th January ; dismissed 29th February.

Can give no information respecting his family. Alcoholic and venereal excesses. He can scarcely support himself. The oppression and the fits of coughing prevent him speaking. Countenance yellow, elongated, eyes hollow, nose pinched. When in the army had, on several occasions, affections of the chest. Percussion shows dulness of both lungs at the apices, especially of the right lung ; bronchophony ; no râles ; obstinate constipation ; no perspirations ; moderate fever, with slight evening exacerbation.

Diagnosis doubtful, and for some days I hesitate between a bronchial dilatation and a latent tubercular phthisis. The patient

is put on quarter diet. *Calcar. carb.* 12. About the 15th the cough becomes more frequent, the sputa have a tinge of blood, and the fever increases. *Bryon.* 6 and *Ipec.* 6. The stethoscope signs at the same time become more defined, crackling and rattling are heard, especially in the morning, in both apices.

The fever is intense; pulse 90 to 100; the thermometer oscillates in the morning between 38° and 38·5°, and in the evening passes 39°. The patient's diet is limited to soups, and from the 17th January he gets *Arsen.* 80, 12, and 6. The fever, which had not a typical form, appears sooner; from the 22nd it comes on every day at 2 p.m. The patient has a violent rigor, soon followed by increase of heat. The temperature sometimes exceeds 40°, and the pulse is from 130 to 140. The fit lasts about three hours, and the fever gradually diminishes during the night. In the morning the temperature is again at 38°. Thirst ardent; continual insomnia; the prostration is extreme, and the anatomical lesion advances with rapid strides. The râles are larger and more numerous, and the two excavations in the apices seem to increase daily.

Sulphate of Quinine is given at first in the 1st trit., but this preparation producing no effect, it is given in doses of 1 gramme for six days, from the 23rd to the 28th of January. At length the fever loses its intermittent character and its intensity, and the patient gradually recovers from his prostration. Some nourishment is given, and no medicine is administered save *Arsen.* and *Bry.* alternately. From the 8th February he is put on *Arseniata of Antimony*, of which he takes alternately and successively the three first triturations in the dose of 50 centigrammes. Meagre diet is enforced rigorously. Gradually the temperature falls to 37°, the pulse to 80. The fits of coughing are less frequent; the patient regains his strength, gets up, walks without much oppression, and leaves the hospital on the 29th February confident of a speedy cure.

Remarks.—This man died at his own house of phthisis some weeks after leaving the hospital.

The *Arseniata of Antimony* is the medicine that was of most use in this case; his state was very serious when he was placed on meagre diet. But this regimen produced its customary effects, that is to say it caused the fever to decline, and his strength rather gained under its influence so as to deceive the

patient and lead him to quit the hospital. I may add that he did not relish the regimen, and probably the meat and wine he desired so much contributed to hasten the fatal result when he returned home.

Phthisis, chronic fever (women's ward 1, bed 8).—Frances Gorse, cook, aged 26. Admitted 7th February, dismissed 22nd February.

Constitution weak. An orphan; could give no information respecting her family. Catamenia usually regular. She has been ill several years, she has attended the dispensary in the Rue de Verneuil for several months and is on low diet. Hygienic conditions satisfactory.

She had a pretty sharp attack of bronchitis in the beginning of the month, and came into the hospital on the 7th February. Besides sibilant râles disseminated through both lungs, there are signs of a subclavicular cavity on the right side with even fine crackling sound. There is neither fever nor sweats, nor fits of coughing with vomiting, nor any other signs of advanced phthisis. The patient is put on meagre diet, and the medicines first given are *Bryon.* 12 and *Ipec.* 12, alternately, which was given for three days and then replaced by *Tart. em.* 3. No noticeable febrile action. The bronchitis soon disappears, the strength is restored, the cracklings are only heard in an intermittent manner, and she left the hospital cured of her intercurrent bronchitis.

Remarks.—This patient returned to the dispensary in the Rue de Verneuil. She still coughs but does not get thinner. Her strength has returned so that she can retain her situation as cook. She is still on meagre diet.

Chronic phthisis (men's ward 1, bed 4).—D—, aged 45, saddler. Admitted 20th December, dismissed 30th January.

Nervous temperament, good hygienic conditions. No tubercular antecedents in his family. No venereal or alcoholic excesses. Has never had pleurisy.

Treated for phthisis for five years. At both apices of the lungs rattlings and cracklings, with relative dulness. Constipation only relieved by lavements. Perspirations rare, hot, profuse. He is much oppressed, speaks with difficulty, and has frequent

fits of spasmodic cough. Fever considerable; pulse 96. The first ten days he got *Drosera* 6, and occasionally *Nux vom.* 6, to relieve the fits of coughing and some diurnal febrile attacks of an intermittent character. Thin food was given gradually. *Drosera* was continued until the 10th January. On the 11th profuse hæmoptysis during the night. *Millefol.* 6 and low diet. The spitting of blood disappeared, and on the 13th *Sulphur* 500 was given. Intense fever came on, which disappeared on leaving off the *Sulphur* at the end of two days. He was then put on the meagre diet and got *Asafæt.* 3. He went out of the hospital the 30th January. All oppression had ceased; no more fits of fever with thirst; he could resume his work. The amelioration has continued ever since.

Remark.—An instance of the well-known action of *Millefolium* in tubercular hæmoptysis and of the meagre diet in phthisis.

Phthisis, common form (men's ward 1, bed 3).—Henry Bourrel, aged 35, commercial clerk. Admitted 17th January, dismissed 9th February.

Delicate constitution, nervous temperament. Usual hygienic conditions bad. No tubercular antecedents in the family. Smallpox in 1870. Five years ago had pleurisy in the left side. Consequent on this affection there is an oppression which gets worse at times without appreciable cause, and it is accompanied by spasmodic cough with rusty expectoration. He has also had several pretty copious hæmoptyses (two or three per annum). The fits of coughing have never brought on vomiting. Admitted on the 17th January. He complains of stitch in the side at the base of the right lung, and of a shooting pain between the shoulders. Rather strong fever; pulse 100, with thirst and sweat. Relative dulness of the left lung superiorly and anteriorly. Sonorous rhonchi in both apices. Meagre diet. *Asafetida* 3. On the 20th January the fever increased; the sputa were more abundant and some fine cracklings are heard in the left supra-spinal fossa. Weak beef tea and *Bryon.* 12. Two days afterwards calm was restored, the fever declined. More nourishment was given and the *Bryon.* continued. On the 24th this is replaced by *Canthar.* 6 on account of pains in the neck of the bladder and tenesmus, then *Asafetida* 3 is resumed and

continued till he leaves the hospital. The meagre diet, with beer for his sole drink, is maintained vigorously. The diurnal fits of fever and the erratic intercostal pains ceased. The sputa became less thick, lost those streaks of blood, and was more frothy. The cracklings in the supra-spinal fossa were no longer to be heard; only in the morning some large râles are formed in various places. The strength returned and the patient quitted the hospital on the 9th February able to resume his occupation.

Remarks.—We subject all phthisical patients who are not in a cachectic state to the meagre diet. This diet is not absolutely meagre, for it admits of soups and fat broths, but flesh meat is rigorously withheld; fish, eggs, milk and vegetables make up the regimen. We allow the use of starchy food in all forms. This regimen is especially beneficial when the patient can bear milk well and can get it good. For drink we allow water or beer. I repeat that this regimen must not be applied in the cachectic stage, the patients cannot stand it, and rapidly fall into complete adynamia. Habitual diarrhoea, when it is persistent, is a contra-indication for this regimen.

Under the influence of the meagre regimen, patients who are not confined to bed often experience a loss of strength during the first week, more rarely during the second; then they begin to feel extremely well, and this improvement continues every day; the fever and cough declines, the strength and *embonpoint* return. Some patients feel the good effects at once without passing through the initial feeling of weakness.

I may add that this regimen has never been seriously tried except at the dispensary and at the hospital—that is to say, among the labouring class. It has been prescribed now with good results, in spite of the poverty, in spite of the labour beyond their strength of poor phthisical patients, in spite of a detestable hygiene. I trust none will think that I have been experimenting on the poor. If the rich have seldom had the benefit of the meagre regimen in phthisis, that is owing to their unintelligent prejudices. In these times, when all diseases are attributed to *debility*, when all therapeutics consist in *strengthening*, the meagre regimen cannot be successfully carried out. Thus many of my phthisical patients have gone to die in other houses, eating raw meat and drinking alcohol. That is a strengthening regimen, a very successful regimen—for the undertakers.

But to return to our patient:—Under the influence of *Bryonia* and of the regimen the fever rapidly disappeared. *Asafetida*, which Milcent advised me to give, was then administered, and after a stay of three weeks in the hospital the patient left much benefited and able to resume his work.

We wished to publish three more cases, but we have applied in vain for them to Dr. Claude, who is so busy with his preparations for his departure to America that he has not been able to write them out. We shall give a brief summary of them :

The first case was that of a young girl attacked by *acute phthisis* consequent on pleurisy who died in the hospital. In this desperate case we wished to try the effect of *Alcohol* in the febrile condition. She took for some time 60 grammes, then 80 grammes, then 100 grammes of alcohol per diem. The following is the thermometric result: the febrile heat always fell considerably (two degrees) each time the *Alcohol*, given in close following doses, produced the commencement of intoxication. When, on the contrary, the same quantity of *Alcohol*, or even a greater quantity was given in doses sufficiently far apart to avoid the production of the commencement of intoxication, the effect on the temperature was nil. The patient felt comfortable; there was an increase of strength, and a return of sleep under the influence of this treatment. The effect on the course of the disease was absolutely nil.

The second case we wished to report was one of *obstinate sciatica* cured by *Ignatia*, 3rd and 2nd trit. The peculiarity of this sciatica was that it was relieved by movement, so that the patient used to walk about all night.

The third case was *ulcer of the leg* relieved by *Oleumatis vis. alb.* 8, internally, and the mother tincture externally, 40 to 60 drops in 100 grammes of glycerine.

Some Cases illustrating the Curative Action of Lachesis.

By DR. DECK, Dunedin, New Zealand.

THE following cases exemplify the curative action of this by some rather despised remedy, and show that where specifically indicated it is indeed potent for good.

1. Mrs. C—, a middle-aged person, with several children and in rather reduced circumstances. She has been troubled with an asthmatic cough all her life, which becomes worse every winter. She never entirely gets rid of this cough, but has been suffering from it lately more than she usually does, owing to a severe attack of influenza, which has been very prevalent in the district. She seemed very weak in many other ways, and without examining her case closely I had treated her for some days without much result, when a more careful examination elicited the following group of symptoms.

She says she feels pretty well when she first gets up in the morning, and thinks she will be able to do a good day's work, until eleven o'clock in the forenoon, when she becomes very weak and faint. She continues in this weak, faint state until about two o'clock in the afternoon. At the same time that she becomes so weak her tongue becomes sore across the middle from side to side, and beats very much; her throat also seems to swell and beat very much. She often gets a cough, or fits of coughing, about the same time, and after a long fit of coughing expectorates some very tenacious mucus. After two o'clock she becomes better, but the attack leaves her quite tired out. She has some severe fits of coughing and difficulty of breathing on going to bed, and also on waking in the morning, generally terminating with the expectoration of some tenacious mucus. She perspires very much at night, and often starts up suddenly with a choking sensation as if she was going to be suffocated. She says she can never bear her bonnet-strings tied tight round her throat at any time. She has no appetite, complains much of flatulence, and is inclined to be costive. She is always better out of doors, and when moving about.

I ordered her to take *Lachesis* 12, three globules in sugar of milk, at night for four nights, and five days afterwards I made the entry in my case-book:—The powders have given much relief, she slept much more quietly after them; she thought they were given to make her sleep. The night perspirations are better, the fits of asthmatic cough are easier; the peculiar fainting turns during the day are quite gone. She has eaten much better, and done more work than for weeks.

It subsequently proved that she was pregnant, although she did not think so at the time; and although she remained weak

for some time owing to many concurrent causes, she found much relief to many of her symptoms from those few doses of *Lachesis*. The group of symptoms that came on at eleven o'clock were very marked, and seemed in some way characteristic of her case. According to American writers faintness at that time indicates *Sulphur*, *Phosphorus*, *Lachesis*, and *Hydrastis*, so that my thoughts at once went to those medicines, and the other symptoms pointed unmistakeably to *Lachesis* as one that would exercise much power in the case. She could not bear anything tight round her throat, and *Lachesis* patients feel as if they must have the whole neck bare; there is great sensibility of the throat to the slightest pressure even of the bed-clothes. This sensitiveness to contact appears in many symptoms of *Lachesis* besides those referring to the throat. Under the heading Hypochondria, in the list of symptoms given in Jahr, we find:—Cannot bear tight clothes round the hypochondria and stomach, has even to loosen the night jacket to relieve the oppression which is occasioned even by laying her arm on her body. Extreme sensitiveness to pressure is given as an indication for the choice of *Lachesis* by Dr. Martin, of Philadelphia, in the case of a prominent swelling in front of the right ear; and in a case of cardiac disease, to which I will refer presently, inability to bear even the weight of the arm over the region of the heart was an indication for the successful use of this remedy. Suffocative fits of wheezing cough, terminating in the expectoration of some tenacious mucus, are also characteristic of *Lachesis*, especially if the fits come on after sleep. The amelioration of the symptoms whilst moving about was also indicative of this remedy, along with many others. In cases where any medicine is as characteristically indicated as this, I always like to give a high potency at rare intervals; that is, if the disease is chronic. To see an obstinate train of symptoms removed in this way makes a profound impression upon one; at first thought there seems such disproportion between the agency and the result, until one remembers how susceptible of all susceptible things the human system is even in health, and still more in disease; and also takes cognizance of the fact that the real mode of action of even the simplest medicine on organised life is far beyond our ken. We must remember that there is a world of unknown action into the precincts of which we cannot penetrate; we only see the results,

we cannot see the real forces at work, and know little of the manner in which other influences act upon them.

2. The symptoms in this case were just as strongly marked, and pointed at once to *Lachesis*. Mrs. C—, aged 39 years, has had nine children, the youngest one year and nine months old. Since she ceased to nurse this child, menstruation has been irregular; for eight months not at all. She has since been ailing. She has become so swelled in the abdomen that she has sometimes thought she might be pregnant, but has never felt any positive indication. She is at present in a very restless nervous state, morbidly talkative and complaining, and yet giving a very rambling account of her ailments. She has had no sleep for three nights, partly owing to nervous restlessness, partly to what she calls shivering and shaking fits which come over her. For some time her sleep has been very broken, and always followed by headache and great despondency. The least worry or excitement puts her into heat and fever. Whenever she has felt very nervous, she has noticed that the urine was scanty, high-coloured, offensive, and passed with much pain. The bowels are inclined to be loose, are acted on generally by a cup of hot tea. Her appetite is very bad, she feels very nervous and discouraged after eating, often suffers much from nausea, and a load at the stomach at the same time. It is difficult to express in words the extreme nervousness and desponding restlessness that she exhibited, and I at once noticed that her dress was unfastened and quite loose at the upper part of the chest; she says she cannot bear it tight, nor can she bear her things tight round her waist. She also complained of that well-known symptom, faintness and hunger about eleven o'clock in the forenoon.

I ordered her *Lachesis* 7, one drop at once; *Sacc. lach.*, five powders, one every three hours afterwards.

The next day, on returning to see her, I found a very different picture. I noticed at once her dress was fastened up to her throat, and there was no longer despondency depicted on her face. She says she feels much better, had several sleeps last night, thought the powders were sleeping powders, but thought they made her head ache when first she woke. She feels far less nervous, and has been able to eat better.

Lachesis 7, one drop at night for three nights in succession.

Eight days after last report. Mrs. C— feels quite changed in

every way. Can eat and sleep well, is not nervous, has no headaches, only there is some tendency to costiveness. In every other way she feels quite well. No further treatment unless required. I saw her three weeks afterwards and she remained well.

3. The third illustration of the therapeutic value of *Lachesis* I wish to refer to is a case of heart disease. A gentleman had passed through a severe attack of rheumatic fever, in which the heart was the organ chiefly attacked by the rheumatic poison. He suffered from pericarditis very severely, the friction sounds were very marked for some days over a large surface; the agony he was in for two days was very great, the slightest change of posture bringing on severe paroxysms of pain with great difficulty in breathing. For some days there was considerable effusion in the pericardium. I did not take notes of the case, as the patient being at some distance I could not see him daily, nor conduct the case in as satisfactory a manner as if I had been able to watch him closely. I will only say the *Spigelia* 3^r gave marked relief whenever he had any fresh exacerbation of the cardiac pain, or of the friction sounds; *Digitalis* 1 was useful at one time when the pulse was very irregular, and I think also in helping the absorption of the serous exudation; I used *Cactus* 1^r also, but not with as marked effect as I have seen it have in other cases of cardiac disease. However, the patient got over the severity of the attack, which was succeeded by a rather long convalescence. His shoulders remained very stiff, especially the left one, so that he could not put on his coat alone, and I made the following notes of his heart symptoms. I must here mention that some years before he had a previous attack of rheumatic fever, and since that time had so severely exerted himself in running and other athletic sports that he had suffered many cardiac symptoms before the illness in question. My notes are as follows:—He has suffered for some months from palpitation after exertion or sudden excitement, which is always relieved at once by lying down. The palpitation always made him feel sick and faint; his face became quite white, but on lying down the symptoms would pass off in two minutes. For some time past he has been unable to lie down on his left side because it caused either pain at the heart or dull oppression in breathing. Sometimes even when lying on the right side the weight of the left arm upon his left side would be painful; this generally took place after exertion,

or when very tired. A sensation he had very often suffered from was a sense of fulness at the heart, as if it was pressing against the side or had not free play.

He was now during his convalescence suffering from all these symptoms that had troubled him previous to his illness, only at present in an exaggerated degree; and their persistence had much retarded his recovery, inasmuch as he had always to lie on his back slightly propped up with pillows; to lie on either side was unbearable. He also complained of increased palpitation on talking over business matters which worried him in any way.

After thinking over the case for some time I determined to try the effects of *Lachesis*. I was partly influenced by a hint in Raue to give *Lachesis* in arthritic contractions of the limbs after abuse of *Quinine* and *Mercury*, as I knew he had taken a good deal of *Bark*. It seemed also suitable to the symptoms; and I have since found an indication given by Dr. Morgan, of America, which would alone have led me to *Lachesis* had I seen it before. "Heart feels as if too large for the containing cavity." He had never felt the sense of constriction of the heart, which is Rubini's characteristic for *Cactus*, and *Cactus* had not done him any marked good; but he had complained that the heart did not seem to have fair play. I gave him *Lachesis* 7, night and morning, for a week, and was gratified to find that there was great improvement in the stiffness of the shoulders, and that the cardiac symptoms were much improved. Under a continuance of this medicine they have nearly disappeared. In this last characteristic of *Lachesis* we find again the extreme sensitiveness to contact which I have previously noticed as running through several of its symptoms.

This case shows how far symptom treatment, as it has been called, goes beyond treatment based wholly on pathological indications. Cultivate pathology as we will (and by all means let us do so) shall we ever find the lesion, nervous or whatever else it may be, upon which depends the symptom—heart feels as if grasped and compressed—or the following—heart feels as if too large for the containing cavity; but even suppose pathology advanced so as to account for one of these symptoms, could it differentiate between them? They are rather analogous symptoms, and yet very diverse, but Hahnemann's wondrous law teaches us how to use them at once; and without any knowledge

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of the pathological changes on which they are depending, we can apply them when we need to the cure of disease. The longer we apply this law to the treatment of disease, the more we learn to venerate him who not only put this law into its own proper place in medicinal therapeutics, but also gave us in his *Materia Medica Pura*, and his chronic diseases, a large number of pathogenetic symptoms and indications than have been amassed since his time by the combined labours of all those who have followed him. —*New Zealand Homœopathic Gazette*, May, 1872.

Angina Ludovici: a case, with remarks.

By JAS. C. BURNETT, M.B., Resident House Surgeon,
Homœopathic Dispensary, Liverpool.

ON October 10th Elizabeth Ch—, æt. 29, unmarried, domestic servant out of employ, and now staying with her sister in Mount Vernon View, came to our Dispensary in Hardman Street. Patient, being unable to speak, was accompanied by her sister.

The anamnesis affords no point of importance. Patient appears in good general health; is pock-marked; and has a dull, stupid expression of countenance. Her right submaxillary region is the seat of an acute phlegmonous inflammation; the contents of the triangle form one tumid, stone-hard, tender, immovable mass, which appears to be one with the lower jaw; its temperature is somewhat above that of the surrounding parts. There is no discoloration of the skin. The right parotid gland is slightly involved in the tumefaction, which extends around, under, and a little to the left of the chin, and below as far as the thyroid cartilage. The left submaxillary glands are indurated and tender, the left parotis appears normal. The inferior maxilla is quite immovable.

The mouth is sufficiently open to admit a spatula, but the jaws are so firmly locked that a proper view of the oral cavity cannot be obtained. The tongue, which can only be seen in its anterior half, appears very slightly swelled and covered with a dense yellowish fur. The teeth seem to form one mass, so completely

are they imbedded in yellowish sordes. The gums bleed easily. In the external oral cavity is about half an ounce of clean watery saliva, in which lie portions of a yellowish, smegma-like substance. The breath is not fetid.

Patient enjoys good general health, menstruates regularly, and is of costive habit.

Patient nods to her sister's statement that she caught cold about a week ago, soon after which time she began to feel her throat sore, and had a difficulty of swallowing. On being asked where the swelling began she points to the seat of the right submaxillary glands. I put patient on my visiting list and prescribed *Merc. cor.* 3, one pilule every 4 hours.

I should mention that I at first sight thought of *Hydrargyrosis*, but it appeared that patient had taken no medicine for a considerable time.

11th.—Visited patient. Symptoms much aggravated. Swelling extending to left submaxillary region. Great dysphagia. No dyspnoea. Slight pyrexia. Patient cannot utter a syllable and is very deaf. She cannot swallow solids at all, and fluids only in very small quantities. There is no discoloration of the integument over the swelling. Thinking this an opportunity for trying the virtues of the *Muriate of Hydrastia*, I prescribed a gargle composed of gr. xij of that substance to Aq. ʒviij. To gargle every four hours. And for internal use I poured about a drachm of the gargle into a half-tumblerful of water. One tablespoonful every three hours.

12th.—All the symptoms aggravated. The swelling now forms one hard mass extending from ear to ear; the parotid glands being, however, but slightly affected. Considerable pyrexia and general malaise. Continue gargle; and *Aconite* 3, to be administered in alternation with the remainder of the *Hydrastia* in the glass, every three hours.

13th.—The febrile symptoms have abated somewhat, but the swelling is still on the increase and getting very painful; patient can now swallow liquids, but in minute quantities and with extreme difficulty.

Without considering that *Hydrastia* had had a fair trial and been found wanting I yet felt that there was no further time for experimenting. R *Aconit.* 3 and *Iodium* 1 in alternation every two hours.

14th.—Slight amelioration. Feels better. Can lisp, or rather gurgle, yes or no. Rep. omn.

15th.—About the same as yesterday. Rep.

16th.—Feels well in herself. Can speak in monosyllables. Swelling not so painful. Rep.

17th.—Improving. Jaws not quite so firmly locked. Can protrude her tongue, which is filthy. No pyrexia. R. *Nux vom.* 3, to be alternated with the *Iodium* every three hours.

18th.—Came to dispensary (against orders) and managed to tell me that her sister was from home. Swelling going down. Tongue cleaning at the tip and edges. Rep.

20th. Vast improvement. Left half of swelling much diminished. Anterior half of tongue clear. Teeth cleaning. Rep.

21st.—Further improvement. Tongue quite clean, but pale, Patient can converse freely and open her mouth. On careful examination of the oral cavity and the fauces the mucous membrane is everywhere intact; tongue and gums normal; teeth sound. To the left of the chin there is hardly any visible tumefaction, but manipulation discovers that the left half of lower jaw inferiorly, and just in front of the angle, is swelling hard. On the right side the jaw cannot be distinguished from the still considerable tumour. The parts are very tender on pressure. Rep.

23rd.—The left half of lower jaw is nearly normal. The left submaxillary glands can still be felt.

The original swelling has diminished since last visit, but it is still distinctly visible, and, on careful manipulation, is demonstrably connected with the bone (periosteum?).

Patient, who now complains of nothing but that the swelling is disappearing too slowly, remains under treatment.

Remarks.—As to the appellation *Angina Ludovici*, von Niemeyer informs us that this disease is so called after the deceased Ludwig, of Stuttgart, who first fully described it. The same author also remarks that it is often improperly called "gangrenous" inflammation of the neck. With regard to its pathology Niemeyer says, "The floor of the mouth and the intermuscular and subcutaneous connective tissue of the submaxillary region are occasionally the seat of a phlegmonous inflammation which may readily lead to diffuse gangrene and sloughing, but in other cases ends in formation of abscess, and not unfrequently in

resolution. It may be idiopathic or epidemic, and is sometimes metastatic. In the few cases that I have observed the inflammation of the connective tissue undoubtedly proceeded from periostitis of the lower jaw. Lastly, there is a form of the disease which comes with symptomatic or metastatic parotitis occurring in typhus and other infectious diseases; this probably starts from the sub-maxillary glands.

In *Tanner's Practice of Medicine* I find no mention of the disease at all; in fact, it seems to hold no place in our ordinary manuals. More elaborate works are not at my disposition. I have, likewise, looked in many homœopathic works for information on the subject, but found none. The ideas which occur to one's mind in connexion with this case are about as follows:

Why is this disease not mentioned in our ordinary manuals? Can it be that it is of such very rare occurrence, or that it is not generally differentiated from other affections of the same region. Every good nosology must embrace all known forms of disease. All scientific works on therapeutics must make use of a sanctioned nosological nomenclature. Even those who eschew every system of nosological classification for healing purposes must nevertheless admit that the more clearly certain groups of symptoms and morbid phenomena are defined, separated from others, and named, the less chaotic does our art appear.

The publication of this case will, it is hoped, elicit the experience of others, both with regard to the entity of this disease and also with regard to its etiology, pathology, and treatment. That it is a *morbus sui generis* I, for one, cannot doubt.

It appears that the first description of this disease comes to us from science-loving Germany. It is a very laudable thing to do honour to the first describer of a disease by associating his name with it; but this kind of hero-worship is admittedly a drawback to true scientific progress. Perhaps our German brethren may be persuaded to forego the appellation *Angina Ludovici* and substitute for it a more characteristic name. They have of late years begun to drop those ever-recurring proper names in Anatomy.

Were I a Cullen I should propose to call this disease Hypomyelitis. The word as based on analogy is philologically justifiable, and as a generic name would allow of convenient specific subdivisions. The great objection to the child is that it has no father.

Case of Hydrothorax. By Dr. HARTMANN.

On the 22nd of May, 1865, I received a telegram from Captain G—, R.A., to come to Y—, and see his little daughter. On my arrival I found the child had been ill with scarlatina, and under the care of Dr. S—, of the regiment, and of Dr. V—, of Y—, whose opinion was that nothing could save the child but possibly paracentesis of the thorax (tapping the chest). The parents wished to try what homœopathy could do, and I took the case in hand the same afternoon.

A. G—, 11 years old, had been attacked with scarlatina about a fortnight before, and seemed to progress favorably until five days before I saw her, when signs of difficulty of breathing showed themselves, which increased to such a degree that she had not been able to recline the last forty-eight hours without fear of suffocation. She was then sitting up in bed, propped up by pillows, gasping for breath, livid with cold perspiration; pulse 120, small, wiry. The percussion tone in front and back of thorax was dull up to between the third and fourth ribs, the niveau of the effusion the same in front and behind; respiratory murmur imperceptible in front up to fourth rib, bronchial between shoulder-blades; urine scanty, high coloured, albuminous; nausea, tendency to constipation, great restlessness. In a scarlatina epidemic in Norwich some years previously I had observed the beneficial effects of *Helleborus* in a large number of cases of hydrops anasarca and ascites, which followed generally in the milder cases of scarlatina, when, in almost all instances, excepting a few where I had recourse to other remedies, it produced a marked amelioration in a few hours, and complete recovery in some days. I left *Hellebor.* 6, one drop to be taken every two hours, to be commenced at once, 4 p.m.

May 23rd.—I saw her again in the afternoon, and found her much relieved. She had some quiet sleep from 3 to 5 o'clock a.m. still raised up, but could bear a more horizontal position; no nausea, had taken some milk and bread; passed more and clear urine. The medicine to be continued.

24th.—Had a very good night, slept several hours with only one additional pillow. The dulness of sound over chest much diminished, respiratory murmur distinctly audible; slight expec-

toration of mucus; appetite good, urine clear, good quantity, slightly albuminous.

25th.—Has very little to complain of now, can lie in her usual position, breathes perfectly free, takes her food well, evacuations normal. To continue medicine four times a day.

27th.—Continued to gain strength, and remained perfectly well.—*New Zealand Homœopathic Gazette*, May, 1872.

Case of Amaurosis. By Dr. HARTMANN.

On the 10th of September, 1870, I saw Mrs. R—, nearly 70 years of age, very stout, florid, who had been generally in good health. She had always enjoyed very good sight, as I had occasion to observe during three months' sea voyage, she being a fellow-passenger, and reading daily to her husband in the cabin, sometimes with a very bad light, all kinds of print from No. 3, 4 to 6 (Angell's test), without the use of glasses. She complained now of much frontal headache, with heaviness, fulness, and feeling of giddiness, and decided dimness of sight; pupils were dilated, sluggish, eyeball rather tender to the touch. The pulse was full, 85; appetite, bad. I gave her *Gelsemium* 3, one drop every three hours, and enjoined her to keep perfectly quiet in a cool room, and on no account to try the eyes by reading or work.

September 12th.—Not much change, less headache and giddy feeling; but no improvement in the sight; pupils rather more dilated, vision very dim; complained of the room being very dark; nights better, appetite improved a little. To continue *Gelsemium* every two hours.

13th.—Complete mydriasis, pupils perfectly immovable; could not see her hand even when held up against the window; complete darkness; no pain in the eyeball, shooting pains in temples. When examined with the ophthalmoscope the retina of the right eye appeared much congested, dark, with some small extravasations around the entrance of the optic nerve; the left eye much more affected than the right, several large exudations covering the retina. The examination could not be made as minute as I should have wished, as the patient began to complain of giddiness. The

prognosis was not very favorable, considering the age of the patient. I gave *Atropin. sulf.* 6 every two hours.

14th.—Nearly the same, could not distinguish anything. To continue *Atropin.* 6.

15th.—No apparent change; slight conjunctivitis of both eyes, pupils perfectly immovable. *Belladonna* 6, one drop every two hours.

16th.—Same, less redness of conjunctiva. Continued *Bell.* 6.

17th.—Decidedly better, can see on which side of the room the window is. To continue medicine.

18th.—Improving in all respects. *Belladon.* every three hours. From this time improvement continues uninterruptedly. On September 23rd she could tell the number of fingers I held up, not against the light. She continued taking *Belladonna* four times daily up to September 29th. She had then a few doses of *Calc. carb.* 12, and on the 11th of October for a return of conjunctivitis with lachrymation, *Euphrasia* 3. She has continued well, and could read distinctly the letters on a signboard at least 120 feet distance from her window when I last saw her.

In this case, as far as the necessarily hurried examination with the ophthalmoscope proved, of Neuro-retinitis, it was very gratifying to observe the immediate and steady improvement under the action of *Belladonna*.—*Ibid.*

Ovarian tumours. By Dr. DUDGEON.

I THINK the following case possesses sufficient interest to be given in detail. I cannot pronounce with certainty upon the precise nature of the disease as to whether it was cystic, fibrous, or simply hypertrophic. The tumours were sufficiently large to cause suffering to the patient from their mere weight, and anxiety to herself and friends on account of their probable serious character. As regards the medicine prescribed, *Graphites*, whilst taking which the tumours vanished completely, I was led to give it not from any recorded success of this remedy in that disease, for I am not aware that it has been so used before; nor

yet from any similarity in the patient's symptoms to the pathogenetic effects of *Graphites*. It was, in fact, by a roundabout kind of reasoning that I prescribed the remedy, which was not homœopathic, scarcely pathological, but what may, perhaps, be termed instinctive for want of a better word. I daresay we are all occasionally guilty of prescribing from some fanciful indications, just as our medical ancestors used to prescribe on the indications afforded by the external resemblance of drug and disease or organ affected, which they called the method of signatures, and just as our less remote medical ancestors used to prescribe on the fanciful indications of their humoral pathology. We cannot always be on our homœopathic behaviour, and prescribe medicines in strict conformity with the principle of similarity, more especially when the case we have to treat offers no symptoms to compare with those of the medicine, or when the pathogenesis of the medicine is utterly silent on the main or any symptom of the disease. In such cases we have to resort to quite other methods than the comparison of non-existent symptoms, and if we often fail, we may sometimes succeed, and then our medicine will have acquired a new therapeutic value *ab usu in morbis*.

The patient had been under my care more or less—rather less than more—ever since 1850. She was not far from thirty, her exact age I have discovered was twenty-nine, when I first knew her, and her first consultations were about hæmorrhoids from which she suffered considerably, but which she gradually got rid of. In 1864 she had an attack of shingles which I treated with *Cantharis* externally and internally, but this did not save her from the neuralgia so common after this cutaneous affection. *Zinc* removed this.

Until 1869 she only consulted me occasionally for colds, constipation, and rheumatic pains in different parts. In that year she got married at a very ripe age, if we bear in mind her ascertained age in 1850. And now she became liable to various ailments. She first noticed a dimness in her favourite eye, viz., the right one, which bothered her much in her painting and fine work, of both of which she was fond. I examined and found she had commencing cataract of that eye. She had also some severish attacks of muscular rheumatism and a sharp fit of dysuria accompanied by a stinging sensation in the right hip as if with nettles.

Cantharis removed these symptoms. I gave her successively *Magn. c.* and *Calc. c.* for her cataract, but without benefit.

About the end of 1870 she had a severe attack of scarlatina which I treated in the usual way, and she made a good recovery. She got this attack when on a visit to a relation in the country, where I had to go by rail and visit her.

One day when she was convalescent she said in a hesitating manner, for she had been a chaste virgin so long that she still had a maiden shyness in talking about any of her distinctive sexual parts, that she had for a long time—I forget how long—had a painful swelling of the left breast. With difficulty I persuaded her to let me examine it and found it as she said. It was about the size of a walnut and was painful when squeezed or pressed, not much so otherwise. I gave her *Conium* 1, which caused this swelling to disappear in a fortnight.

Whether it was the success of the treatment of this swelling, or the persuasions of her sister I know not, but something overcame her repugnance to speak to me about another distress that she had laboured under for upwards of a year. This was a swelling and uncomfortable feeling of weight in her "stomach" as she called it, by which, of course, she meant the lower part of her abdomen. This was in 1871. I made her lie down on her back and draw her legs up so as to relax the abdominal walls completely. I found in the right iliac fossa a hard, round tumour the size of a large orange. It reached to the mesial line of the abdomen and was nearly joined by a similar hard round tumour growing up from the left iliac fossa, not quite as big as that on the right side. The abdominal walls being very lax allowed these tumours to be distinctly defined. They felt as hard as stones and were quite round, and very slightly moveable; hard pressure caused a little pain, not much, and the only inconvenience she suffered from their presence, besides the depressing moral effect they had on her, was from their weight, which seemed out of all proportion to their size. She had long watched the growth of these tumours in secret and had not dared even to tell her sister about them. At last she took courage to do so, and her sister, who was a discreet matron with a large family, gave her a good scold and brought her to me. Her reluctance to mention her malady, I found, was not owing solely to maiden modesty, but she was dreadfully afraid that I would at once

order her off for operative purposes to Baker Brown, Tyler Smith, Spencer Wells, or some other eminent binominous ovariologist.

The medical adviser of the nervous must altogether reverse that maxim he was taught in his youth, "Speak, though sure, with seeming diffidence," for he must "speak, though unsure, with seeming confidence," if he would inspire his patients with confidence in him, and drag them out of the sloughs of despond they are so apt to fall into. Accordingly, I said I thought there would be no occasion for any such desperate measures, and that we had remedies in homœopathy infinitely better than the surgeon's knife; meaning thereby merely to cheer her up and dispel her terror for the time being, but believing in my heart that she must eventually come under the fatal steel.

I told her to get a phialful of globules of *Graphites* 12, and take one every night and morning as long as nothing in the way of cold or rheumatism rendered it necessary to take something else.

The train of thought—if it deserved that name—that led me to prescribe *Graphites* was something like this:—This excellent lady, who had lived all her *mannbar* life (I use the expressive German word, which will be intelligible without attempting to translate it) a retired and modest virgin, marries when it had ceased to be with her after the manner of women; in short, in her climacteric years. The ovaries were excited by the too-long deferred coitus, and not being able to relieve themselves in the way of expelling the ovum as they might have done some years ago, they swelled and swelled until they had attained their present monstrous proportions. The ovaries are the physiological analogues of the testicles and *Graphites* is recorded to have reduced swollen testicles. To be sure the affection of the testicles it is said to have cured is said to be hydrocele, but that is not quite clear from the recorded cases. I am aware my friend Dr. Richard Hughes has pointed out that ovarian cyst is the analogue not of hydrocele but of cystic tumour of the testicle, but then it was not clear to me that the cases cured by *Graphites* were hydrocele, nor that these tumours were ovarian cysts. All I could clearly make out was that the cases cured were enlarged testicles, and that my case was one of enlarged ovaries. So, for want of more particular guidance, I put this and that together, and became for

the nonce a rough-and-ready analogical organopathist, prescribing *Graphites*, which was known to have cured enlarged testicles for enlargement, their female analogues the ovaries. The analogy may be false, but in physic we are all more or less jesuitical, and are quite satisfied when the end justifies the means. This it apparently did on the present occasion.

The patient went on taking the *Graphites* with interruptions of the following kind:—

In March she got a severe attack of bronchitis, which required *Arsen.*, *Phos.*, and *Ant. tart.* for its removal. In May she had rheumatic pains in the arm which continued off and on till the end of July. For these she had *Rhus*, *Bry.*, and finally *Cimicifuga*, which last removed them completely. All this time she complained much of the weight of the tumours, which had not perceptibly decreased in size. After this she was able to go on uninterruptedly with the *Graphites*, and I saw her no more until December, when I made a careful examination of her and could detect no trace of the tumours. She said they seemed gradually to go away, and had not occasioned her any discomfort for more than six weeks. I have seen her occasionally since, and at the date of this writing (October 10th, 1872), I have her report—for she is now settled in Paris—that she has had no return of the swelling, and is quite comfortable in her interior; but the cataract has become more pronounced, and she has been to consult a famous oculist in Paris, who advises her not to have any operation unless or until the other eye became affected.

My readers may form their own opinion as to the character of these tumours if they object to my pathology, and they are free to judge for themselves as to the connection between the administration of the *Graphites* and the disappearance of the ovarian tumours. All I will say is, that I think there may be grounds for believing that the *Graphites* may have had something to do with the dispersion of the tumours. The patient, I may add, is *sure* the globules did it, and I am not going to say anything to disturb her simple faith.

MISCELLANEOUS.

On the Value of the Hydrate of Croton Chloral in Painful Affections of the Fifth Nerve.

By J. WICKHAM LEGG, M.D., Casualty Physician to St. Bartholomew's Hospital.

It is perhaps surprising that a remedy whose action was several months ago declared to be of so extraordinary a character should have received so little attention at the hands of the profession, especially when this new medicine promised to be so efficient a weapon against some of the most painful diseases known to physicians. Beyond one or two pharmacological notices, the substance seems to have been altogether passed by.

The hydrate of croton chloral was made by Krämer and Pinner, by the action of alkalies upon dichlorallyl and formic acid. Its physiological action was investigated by O. Liebreich. He found that in animals it produced a deep anæsthesia of the head, without any loss of sensibility of the body. Death was caused by a paralysis of the medulla oblongata. In man, an anæsthesia of the fifth only was noticed. The sensibility of the trunk, and the pulse and respiration, remain unaltered.

Having procured some of this substance, I determined to make observations upon such of my patients at St. Bartholomew's as appeared likely to be benefited by the use of the medicine. I gave it to about twenty persons, nearly all women. They varied in age from seventeen to forty-four. They were all suffering pains in the regions supplied by the fifth nerve—that is, the

upper and lower jaw, the face, and the supra-orbital region of the forehead. The pains were paroxysmal. In the majority of the cases they were increased at night. In nearly every one of these cases there was caries of the teeth. In about half there were signs of anæmia. The medicine was given in doses of five, ten, and twenty grains, dissolved in water. It was given at night, just before going to bed. In one case, where the pains became aggravated at noon and at bedtime, it was given just before the increase of pain was expected. In all the patients, except two, great relief from pain followed the dose of croton chloral. Some of the patients said that they slept well after it; others, that they did not sleep, but that the pains in the head and face either ceased altogether, or were much diminished. In two cases, both women, the croton chloral was of no use whatever, the pains being aggravated during the use of the medicine; but in the rest of the cases more or less relief was given.

Should the croton chloral be as efficient in the hands of others as it has been in mine, it will prove a most important addition to the *Materia Medica*. It will enable the physician to give relief from pain until relief can be afforded by the dentist, or by attention to the general health, and this without any of the general effects of narcotics. It is almost unnecessary to dwell further upon the advantages of possessing such a mean.

I may conclude by stating that Messrs. Evans and Lescher, of Bartholomew Close, keep the hydrate of croton chloral in stock.—*Lancet*.

Severe Ulceration of Corneæ, caused by the dust given off by Podophyllin root whilst being ground.—Eruption on the Skin from the same cause.

By Mr. HUTCHINSON, Royal London Ophthalmic Hospital.

It appears from the statement of a patient now under Mr. Hutchinson's care at Moorfields, that *Podophyllin dust* is well known in the trade to produce "inflamed eyes" and an eruption

of "scabs" on the arms and legs of the men who attend the mill in which the root is ground. The symptoms are said to pass off in a few days and leave no ill results behind as a rule, because the men wear closely-fitting masks, the eyeholes of which are fitted with glass, and the *Podophyllin* is moreover wetted to a certain extent, in order to prevent waste in the form of dust.

The man, æt. 39, came to Moorfields about October 25th, with extensive superficial ulceration of each cornea, attended by intense general conjunctival congestion. The ulceration of the cornea was central and large in extent. In the right eye its base was densely white, and looked exactly as if lead had been used. He denied having used anything containing lead. At the next visit, however, he said he was in the habit of using *Sugar of Lead* to his eyes whenever they were inflamed from *Podophyllin*, but that in the present attack he had used none of it, having gone at once to a medical man. His statements on this point, however, were rather wavering. He had had several other attacks of the same sort, but not nearly so bad as this one, and he attributed the severity of the last to the fact that his mask did not fit well when he used it the day before the inflammation of the eyes set in; he said also that for some reason the *Podophyllin* was not wetted so much as usual at the last grinding, and that there was more dust in consequence. He showed also one or two dusky spots on the arms where there had been "scabby places" a few days before.

The day's work which gave rise to the present attack occurred about ten days before he came under care at the Hospital. No symptoms of irritation appeared while he was at the work or during that evening, but on waking next morning his eyes were inflamed. He said that the dust did not give rise to any irritation or inconvenience whatever until the day after its introduction. He was not purged by the dust.—*Medical Times and Gazette*.

Berberis vulgaris.

AGUE, malaria, and all kindred affections, cause enlargement of the spleen, and, if frequently recurrent or protracted in their

course, enlargement of the liver also. Piorry, professor of pathology at Paris for nearly forty years, showed by a series of measurements that febrifugal remedies act as such upon fevers by reducing the spleen and all the other (sympathetically) enlarged viscera to the normal dimensions. Full accounts of these measurements will be found in Piorry's *Traité de Médecine Pratique*, tome vi, and *Traité de Diagnostic et de Semeiologie*, Paris, 1837. Quinine had been recognised as possessing this reducing agency by Bally, Piorry's master, fifty years ago; but it was reserved for the pupil to show that the same virtue resides in the "*berberis vulgaris*," or common barberry, an *échantillon* of which plant, pharmaceutically prepared, had been given him by a chemist of Lyons. Piorry came to prefer this preparation in the treatment of miasmatic fever to quinine; indeed, whenever he found the spleen enlarged in a patient suffering from ague, intermittent, or hectic, he gave (as one of his pupils and clinical clerks, Dr. L. M. Klein, tells us) *berberis* instead of quinine, and the fever abated in a few hours. From comparative experiments of both febrifuges, Piorry convinced himself that in well-recognised cases of ague and miasmatic fevers *berberis vulgaris* was the superior remedy. He sent Dr. Klein to Algeria to institute further experiments, and the result was strongly confirmatory of Piorry's practice, which the physicians of the colony have subsequently adopted. In the present dearth, not to say dearth, of quinine in India, why not (asks Dr. Klein) give *berberis* a trial? The plant is a most accessible one, very common in almost every rocky upland in Europe, Asia, and America. Till scientifically demonstrated by Piorry, its febrifugal virtues were known, even empirically, only to comparatively few physicians, and those mainly in France, Northern Italy, and Switzerland. In this country they are not unknown, but the knowledge is neither very precise nor of much practical force. Certainly a clear case has been made out for its experimental trial by the Indian Government, and by those others, European or tropical, where febrifuges of the more expensive, but seemingly not more efficacious, kind are in constant use.—*Lancet*.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

STUDIES ON THE POISONS OF THE HEART.

By RUDOLPH BOEHM, M.D.

UNDER this title appears a paper in the *North American Journal of Homœopathy* for May, 1872. It does not specify its source; but the author's name is well known in Germany as a physiological experimenter. His citations and observations are of no little interest and importance; and we propose accordingly to give some account of them here.

1. The first poisons examined are "the ATROPINE group" (*i. e.* *Atropine* itself, *Daturine* from *Stramonium*, and *Hyoscyamine*) and "MUSCARINE." The latter is the poisonous alkaloid of *Agaricus muscarius*. A curious antagonism exists between the two members of this division as to their influence on the vagus. It is well known that this nerve exerts an "inhibitory" influence on the heart's action, so that its galvanic excitation, if moderate, diminishes the frequency of the beats of the organ, and, if excessive, stops it altogether (in diastole). Now if an animal be poisoned by Atropine, these phenomena cannot be produced: the poison has extinguished the inhibitory power of the nerve. [Hence, possibly, the extreme frequency of pulse caused by it in Harley's experiments.] Muscarine, on the contrary,

sets the inhibition at work. "Even in the most minimal doses it produces a complete diastolic cessation of motion in the heart." There is no paralysis, for the organ responds to direct irritation. Accordingly, the two poisons are found to neutralise one another. "The heart, forced to stand still by the action of Muscarine, immediately pulsates again, as soon as we give the animal a trace of Atropine. Or, *vice versa*, by giving first Atropine, we fail to observe the cessation of Muscarine," though the number of contractions diminishes. But "by again applying Atropine, the heart returns to its original number of beats—the irritation of Muscarine being removed by the paralyzing Atropine."

These results have perhaps rather a physiological than a practical interest. There is one cardiac disorder, however, which may sometimes consist in pneumogastric depression, viz. *palpitation*; and Atropine might find a corresponding place in its treatment. Muscarine also might be useful in any form of palpitation, as a temporary antipathic palliative.

2. NICOTINE is next examined, and found to produce in minimal doses (the sixth to the tenth of a milligramme) effects similar to those of Muscarine, *i. e.* retardation and finally diastolic cessation of the beats of the heart. These effects are temporary only, however; and the heart's beat, though weak, becomes regular, and then galvanic excitation of the vagus fails to arrest it. Dr. Boehm's reading of these phenomena is—primary irritation and secondary depression of the inhibitory vagus. But we would suggest that the hypothesis of a direct depressing action on the heart better explains the primary phenomena.

3. The experiments with ACONITINE are so important, that we must cite them *verbatim*.

"Ascharumow found that in doses of gr. 0.005 it produces diastolic rest of the heart after it made it at first beat slower, though sometimes also quicker. Aconitine paralyzes the vagus, inasmuch as irritation of its peripheral end after poisoning fails to produce a cessation.

"Boehm injected minimal doses (5—20 mgr.) of Aconitinum muriaticum into the lymphatics of the thigh of frogs,

and observed, after a few minutes, on the exposed heart, that the contractions became irregular. These irregularities appeared first in the auricles. After a while the disorder increased to *cardiac spasms*. The heart, full to overflowing in all its parts, made peculiar vermiform peristaltic motions, and with such celerity that it was impossible to follow its course. These spasms set in in irregular paroxysms, interrupted at first by longer, after a while by shorter periods, during which the heart's beat was more or less regular and rhythmical: still it could be observed that the activity of the ventricles remained behind that of the auricles, the latter giving three to six times the number of beats as the ventricles.

"After these alternations of spasms and rhythmical contractions had lasted more or less time, according to the size of the dose, the picture gradually changed. The heart began to stand still in half diastole, after six or eight regular beats. These cessations in the beginning lasted only ten to fifteen seconds; but every mechanical irritation increased their duration, and the beats of the heart between such relaxations became weaker and more superficial; still it was always some time before the action of the heart entirely ceased. Even after several hours he observed, from time to time, weak contractions in the auricles, when the action of the ventricles had already perfectly ceased. The heart gives the impression that its muscles had lost their ability to obey the regular rhythmical irritation or impulse to motion. After five to seven hours the last vestige of motion had ceased.

"Experiments with fractions of a milligramme constantly showed a more or less considerable *acceleration of the beat of the heart* (ten to thirty in the minute). In some cases the acceleration diminished and the heart recovered itself fully, but this acceleration mostly formed the first stage of a series of manifestations, gradually more and more approximating the picture of poisoning with larger doses, as already shown. After the acceleration had lasted about ten minutes with perfect regularity of the heart's motion, those already described spasms set in, *but far more decided and*

outspoken than with larger doses. Auricles and ventricles equally take part in these spasms, which set in suddenly and without preceding irregularities in the beat of the heart. The chief movement of the rhythm of the beat of the heart, the alternation of systole and diastole at regular intervals, has ceased, and it is nearly impossible to describe the phenomena before us. The muscle labours in vain to expel its contents—it throws them, as it were, from one corner of the heart to another—and thus a diastole” (qy. systole), “limited to small spaces, rolls in vermiform motion over the whole heart. A stage of lassitude follows this second spasmodic stage, gradually, but in longer time, passing over into a cessation of the heart-beats.

“We must also examine in what relation this poison stands to the vagus and the inhibitory centra. Our experiments were made in the usual way, by dividing the exposed nerve, trying its excitability, and then poisoning the animals.

“The excitation, after the poisoning, produces yet for some time an evident retardation, but not a cessation, and finally every influence of an excitation from the vagus on the number of the heart’s beats ceases.

“By irritating mechanically, or by electricity, the heart which ceased to beat under the action of Aconitine, we see no effect by applying the irritation at the apex of the ventricles, whereas an irritation at the auricles frequently produces rhythmical contractions of the auricles and ventricles.

“Poisoning by Aconitine may therefore be divided in its action on the heart into three stages—1, a stage of acceleration of the beats of the heart; 2, a stage of spasms of the heart; 3, a stage of rest of the heart.

“We did not know till now any poison which produces with certainty a direct acceleration of the beat of the heart in frogs. Atropine, of which we might expect such an effect *à priori*, and which really shows it in mammalia in a high degree, leaves the number of beats unaltered in the frog. It seems, therefore, that the diminution of resistance solely, the so-called paralysis of inhibitory centra, is not by

itself able to increase the number of the pulsations. It rather seems that in the frog it still needs a direct irritation of the excito-motory centres to promote an acceleration ; and such it is, probably, which causes this acceleration in the first stage of Aconitine poisoning.

"Experiments prove, furthermore, that Aconitine diminishes the excitability of the inhibitory nervous system. The rhythm of the heart's action is now generally supposed to be caused by forces arising in the so-called inhibitory centra, which, as impediments to overcome, resist the motor impulses, which are constantly put forth by the automatic motor centra. In order to surmount them, a certain elastic force is necessary, which passes over into vital force. After each movement some time passes till the necessary sum of elastic force is again accumulated, and thus arise the regular pauses between the beats of the heart, and the rhythm. The number of beats therefore depends on the amount of the elastic resistance forming in the inhibitory centra, and on the power and quantity of motory impulses developing in the automatic centra.

"This rhythm ceases in the cardiac spasms of Aconitine. The motory impulses fail to be garnered up to a certain degree, and they are not restrained by a sufficiently strong resisting power. Even a very strong irritation of the excito-motory centres would not suffice to produce these spasms, because the resistance emanating from the inhibitory centres would cause a cessation of the motion. The irritation of the excito-motory centres is necessary for the rapid succession of motory impulse, a paralysis of the checking centra is necessary for the spasms ; and this we perfectly witness in the action of Aconitine.

"It may be asked, why then does not such a state produce tetanus of the heart, as all conditions for it are present ? But the centres of motor excitement lie dispersed through the structure of the heart, and for the regular contraction of the organ all its parts must act simultaneously. Aconitine abolishes such regularity, for we see in the spasms caused by it the different parts contracting one after another without regular succession or co-ordination. Thus the

heart never contracts *in toto*, the blood is pushed from the most contracted parts to those less so, producing here and there a temporary systole.

"We wish to draw attention to a remarkable *consonance between the action of higher degrees of heat and that of Aconitine*. Cyon found that the heart, when exposed to gradually higher temperatures, is retarded at first in its pulsations, and then accelerated. After reaching their acme, the beats became irregular, and symptoms set in similar to Aconitine spasms, and finally the heart stands still in diastole. When Cyon, before the warming process, paralysed by Curare the ends of the vagus, the primary retardation failed to appear, acceleration immediately set in, followed by spasms and cessation. The action of higher temperatures on the heart, with preceding poisoning by Curare, exactly corresponds with the symptoms of poisoning by Aconitine; and we must consider both as an irritation of the excito-motory heart centres combined with a paralysis of the inhibitory nervous system.

"The diastolic absence of motion of the heart during the third stage of poisoning by Aconitine is clearly a cessation from weariness. *The heart shows all the characters of an organ semi-paralysed and wearied out by excess of activity and irritation*, which may still by strong stimuli be pushed to ephemeral activity, but which, left to itself, gradually entirely loses its vital qualities.

"We consider also of importance the changes in the horizontally striated muscular substance, apart from the nerve-centres situated in it. The presumption is confirmed by the fact, that the auricles, which have, as is well known, no horizontally striated muscles, cannot be brought fully to a cessation by Aconitine; they still beat, though weakly, for hours after the death of the remainder of the heart. As Aconitine shows the same severe action on all other horizontally striated muscles, we must suppose a complication of two actions on the heart, and it is probable that we have to consider the latter action as the most important cause of the cessation of motion in the ventricles by the poisoning of Aconitine. That the impulses for rhythmical

motion emanate from the motor centra, and that the discontinuance of it cannot be the cause of the cessation in the ventricles, is proved by the continuance of rhythmical motion in the auricles, which are not accessible to the action of our poison on the horizontally striated substance."

The style of the above extract is execrable (probably the fault of the translator), but its drift is plain. We of the homœopathic school have always maintained that the primary action of *Aconite* on the cardiac and vascular nerves is excitant, in opposition to the ordinary doctrine which regards it as depressant. These experiments entirely confirm our doctrine. The passages we have italicised are especially important in their bearing on this point, and the one which compares the action of *Aconite* to that of the higher degrees of heat is an interesting contribution towards its homœopathicity to fever.

4. The next cardiac poison examined is DELPHININE, the "active principle" of our well-known *Staphisagria*. It is found to cause a gradual diminution and ultimate stoppage of the beats of the heart. The organ is found paralysed, insensible to stimuli, either direct or through its nerves. This is an important addition to our knowledge of a drug of very obscure action.

5. VERATRINE.—This poison stops the heart's action, but by producing a tetanic condition in it, which continues even after death. This is interesting, in regard of the homœopathicity of *Veratrum album* to cholera.

6. The results obtained with PHYSOSTIGMINE (the alkaloid of the Calabar bean) are somewhat conflicting; but Dr. Boehm considers them analogous to those of *Atropine*. The action of CONIA is too slight to be worth dwelling on.

The whole is summed up in the following words :—

"All the poisons, with the exception of Muscarine, have the faculty in common of rendering it impossible to irritate the inhibitory centrum from that portion of the vagus lying in the neck.

"Whereas this phenomenon is caused in *Atropine* (*Daturine* and *Hyoscyamine*), *Physostigmine*, *Aconitine*,

Delphinine and Veratrine, by diminution or even perfect destruction of the irritability of the inhibitory centres lying in the heart; we see in a second group—Nicotine, Conia, and Curare—this action produced, that they, as it were, break down the bridge which normally connects the ends of the vagi with the inhibitory centres, by destroying the excitability of the latter. As a criterion of this important difference, we take their relations to stimulation of the venous sinus, and to Muscarine; the first group fail to react to these stimuli, whereas the latter respond to it, as under normal relation. The effect is in both cases a diminution of excitability. But we also studied poisons (Aconitine, Nicotine) which enhance the excitability of certain nervous centres, situated in the heart.

“We distinguished furthermore a third action of these poisons—poisons which act as a continued series of stimuli on the nerve-centres; thus Muscarine and Nicotine stimulate the inhibitory centre, and Aconitine the excito-motor centres.

“Aconitine, Delphinine, and Veratrine showed themselves as poisons which, besides their influence on the nervous system, also show specific action on the muscular substance of the heart, which they entirely deprive of its vital properties after a preceding increase of its excitability.”

AN EXAMINATION OF HAHNEMANN'S PATHO- GENESIS OF *BELLADONNA*.

By Dr. RICHARD HUGHES.

(Continued from p. 76.)

I must begin by making some corrections in my account of the symptoms taken from *Sauter*. I cannot indeed blame myself for having supposed that all were taken from the paper communicated by him to the first part of the

eleventh volume of Hufeland's Journal, and relating two cases of fully developed hydrophobia which recovered under *Belladonna*. For Hahnemann refers to this paper in the first symptom he cites from Sauter (S. 51): repeats the reference, so far as the volume is concerned, in the second (S. 191), which indeed is taken from the same place: and puts to all the rest "Sauter, a. a. o.," i. e. loc. cit. But I have been indebted to Dr. Berridge for a suggestion that it might help me in my investigation if I consulted the previous editions of the *Mat. Med. Pura*, and especially that earliest form of Hahnemann's collection of symptoms, the "Fragmenta de viribus medicamentorum positivis." In the last-named work I find that while many of Sauter's symptoms are taken from the paper above-named, a certain number of them belong to a subsequent communication from the same author, and of a different tenor. It is entitled "On the usefulness of vinegar in poisoning by *Belladonna*," and runs as follows:

"On the 1st July, 1798, at 4 o'clock in the afternoon, I was desired by the master-dyer, Baptist Schwerber, of Allensbach, to visit his little daughter of six years old, who was seized with spasms. Ere I could reach the house, a barber surgeon, who lived near, gave her a dose of the *Liq. anod. m. H.*, after which the patient grew worse till eight o'clock, at which time I saw her. I found this naturally healthy girl *tossing about in her bed in a perfect rage* (1411), with blood-red countenance, and full pulse; and *altogether without reason* (51). *The whole body was swollen and red* (1267); *she spoke constantly and rapidly, talking nonsense* (1349); *tried to tear her night dress and bed clothes* (1412); in short, she resembled one mad to the utmost degree.

"I immediately suspected a poisoning: but the narrative of the parents gave me little enlightenment thereupon. They said—Up to noon the maiden had been quite lively, and bounding about; but at dinner-time was already strange, and *did foolish things*; *in the afternoon she tore her bonnet, pulled stones out of the ground and threw them at the passers by* (1418), *sprang into the water* (1440), and

so at last reached the frightful height of frenzy above described. This was all the information I could obtain: no one would admit the supposition of poisoning. But the widely dilated pupils, with the rest of the symptoms, satisfied me that I had to deal with a case of poisoning by *Belladonna*." The remainder of the narrative details the antidotal treatment, with which we are not here concerned.

It appears hence that S. 51, 1267, 1349, 1411, 1412, 1418, and 1440 are exempt from the exclusion pronounced on Sauter's symptoms, and are genuine effects of poisoning.

I have also, by means of the "Fragmenta," identified the eye-symptom which it appeared that Hahnemann had taken from the hydrophobic patient before the *Belladonna* had been commenced. It occurred later, after taking the medicine. But it is so exceedingly like the condition previously existing, that it well exhibits the untrustworthy character of symptoms taken from patients acutely ill. Thus the case stands:—

Before taking *Belladonna*, the patient had "Die Augen röthlich, scharf, und unruhig."

After taking it, she had "Feurige, röthlichte, herumrollende Augen."

Hahnemann gives as a pure effect of *Belladonna*—"Die Augen sind roth, glänzend (gläsern) und drehen sich im Kopfe herum."

I am glad to be able to exculpate the Master from the carelessness of citing a symptom which appeared before the medicine was taken. But I cannot understand how a similar condition, subsequently occurring, could have been deemed worthy of insertion in a *Materia Medica Pura* of pathogenetic effects.

3. The result of the examination of Sauter's symptoms made one doubtful about those of *Münch*, whose name is so well known in connection with the use of *Belladonna* in hydrophobia. On referring, however, to their source ("Observations on the effects of the employment of *Belladonna* in the bite of rabid dogs," *Richter's Bibliothek*, V) all

fears were dissipated. The drug was given as a prophylactic, a few days after the bite. The symptoms recorded were generally the effects of single large doses (4 to 14 grains of the powdered root); and Hahnemann has transcribed them in nearly the words of the original. There is nothing, therefore, to prevent their standing; and some of them (as S. 165, 398, 1841, 1896, 1424) are of considerable value.

4. Nearly the same remarks may be made as to the three symptoms (S. 147, 279, 283) taken from *Bucholz*. His paper (*Hufeland's Journal*, v. i, S. 222) is entitled "On the usefulness of *Belladonna* in Hydrophobia:" but the drug was given only as a prophylactic. The patient, a boy of 13, received on the day after being bitten six powders, each containing two grains of powdered *Belladonna* root, one to be taken morning and evening. After the fourth dose he complained of *feeling as it were a mist before his eyes* (279), and *in his brain a swashing as of water* (147) being poured out. *When he took a book and wanted to read, the letters shone, partly like gold, partly like blue size, and quivered* (283).

The only symptom that needs to be touched is S. 279. Hahnemann cites it as "Nebel vor den Augen, Blindheit," and refers it jointly to Bucholz and Sauter. Now "Blindheit" does not occur in Bucholz' paper, but it does in Sauter's case of poisoning. It is therefore a valid symptom of the latter's series; but in that of Bucholz "mist before the eyes" should stand by itself.

5. The last of the hydrophobic authors is *Justi*, from whom the following symptoms are taken:—

200. Red and swollen face with staring eyes.

226. Photophobia; he avoids looking at the light.

459. The tongue is covered with a quantity of yellowish-white tough mucus.

655. Distended, hard abdomen.

705. Several watery stools immediately after profuse sweat.

742. Clear, lemon-coloured urine.

They occur in a paper in the seventh volume of *Hufe-*

land's Journal (iv, 65) entitled "Clinical account of the mortal consequences of a mad dog-bite in the case of D. Hennigs." The patient was bitten on December 25th, and on May 9th he died of fully-developed hydrophobia. The symptoms above-given occurred in a group on May 2nd after taking a full dose of *Belladonna*. As the hydrophobic symptoms had as yet barely appeared, I think they may be credited to the drug, but with reservation, so that they should stand in the pathogenesis in smaller type.

6. Three symptoms (S. 23, 639, 1345) are credited to *Albrecht*, in the "Commerc. lit. Nor., 1731." Three others (S. 21, 382, 1241) are referred to the same volume of the serial, but without name. On referring to *Albrecht's* communication, I find it to run as follows :

"Recently a sad instance of the noxious effects of *Solanum furiosum*, which the Italians call *Belladonna*, has come before us. On the 6th of this month two women, with a boy ten years old, went into a neighbouring plantation to collect wood. Pressed by thirst they ate the berries of the *Solanum* growing round them ; the boy greedily and largely, one woman more moderately, the other very scantily. All felt *the head at once disturbed, as if from intoxication* (23) ; soon *the face swelled and grew red, as though they were immoderately heated by wine* (21). These symptoms occurred in all ; and the woman who had eaten least suffered nothing worse. In the other woman who had helped herself more largely, *delirium and heat supervened* (1241). The boy, however, died on the night following his meal, emetics being fruitless to obtain the ejection of the noxious berries, *but bloody foam issuing copiously from his mouth* (382)."

It appears, therefore, that the three symptoms without name are contained in *Albrecht's* narrative : while two out of the three referred to him (S. 639 "Burning in the abdomen" and S. 1345 "Delirium recurring in paroxysms") are non-existent. Nor does a reference to the "Fragmenta" help us. For there S. 21, 23, 382, and 1241 are put under the heading "Mayer, in *Commerc. lit.*

Nor. 1731," and S. 23, 639, and 1345 under "Albrecht" in the same volume. Whereas the first four are contained, as I have said, in Albrecht's paper; and nothing on the subject by Mayer can be found. There is a mistake somewhere: and until it can be rectified, S. 639 and 1345 must stand as unverified, while S. 21, 23, 382, and 1241 are confirmed.

7. *Höchstetter*.—This author, in the 7th "Decade" of his *Observationes Medicæ* (Frankfort 1674), tells the story of a trick played on a monk by some waggish cardinals, who induced him to take an infusion of the "*herba quam Belladonnæ vocant, Daturam* alias," and so get into disgrace by the apparent inebriety it caused. He mentions the symptoms as follows:

"At first there was slight delirium, loud laughter, various gesticulations; then true insanity, afterwards mental stupor such as drunkards have."

Hahnemann has extracted the whole of this description, in the following symptoms:

- 23. Benebelung wie in Trunkenheit.
- 48. Sinnlosigkeit.
- 1362. Lautes Gelächter.
- 1369. Gaukelnde Geberden.
- 1370. Unsinnigkeit.

The "Sinnlosigkeit" of S. 48 is not a very good rendering of the "leve delirium" of the original, and the "gaukelnde" of S. 1369 has nothing whatever corresponding to it in "*gesticulationes variæ*." The former symptom had therefore best be altered to "slight delirium," and all allusion to jugglers expunged from the latter.

8. The six symptoms to which the name of *De Launay d' Hermont* are attached, are taken from a memoir contained in the History of the French Academie des Sciences for 1756. It is an excellently told narrative of the poisoning of a man and his wife with Belladonna berries. Hahnemann might well have made more use of it. However, it has supplied him with the following symptoms:

- 23. Benebelung wie in Trunkenheit.
- 524. Unmöglichkeit zu schlingen.

735. Unterdrückter Harn.

830. Sehr schweres Athmen.

1247. Hitziges Fieber, Brennfieber.

1310. Zittern.

The narrative is too long to be translated entire, but I will give in full the sentences from which the symptoms are taken.

23. "Chancellor comme un homme ivre." "Chancellor" is rather the staggering than the cloudiness (Benebelung) of intoxication.

524. "Son gosier se resserra de manière qu'il ne pouvoit plus avaler."

735. "Le malade n'urinoit qu'avec beaucoup de difficulté."

This is the only urinary symptom, and obviously belongs to the bladder rather than the kidneys.

1247. "La peau étoit sèche et brulante, et le pouls petit, concentré, dur, et extrêmement fréquent."

1310. "Il fut attaqué d'un tremblement universel, qui se termina par un délire complet et continuel."

S. 830 has nothing corresponding to it, the only mention of the breathing being "la respiration étoit libre."

S. 830 must therefore be expunged. S. 23 belongs to De Launay in common with others; but his name should be removed from those of its vouchers. S. 524, 1247, 1310, are true, but had much better be expressed in full, as above. S. 735 should be, not "suppression of urine" but "difficult micturition."

We have next four observations culled from the "Misc. Nat. Cur.," i. e. the "Miscellanea curiosa, sive Ephemeridum medico-physicarum Germanicarum Academiae naturæ curiosorum."

9. The first of these (Decuriæ II, Anno 10, Obs. 108) is from the pen of one *Wagner*, and entitled "Solani melano-cerasi seu sylvatici vis soporifera ac deleteria." The author narrates how two old women ate freely of the berries. "Scarcely an hour had elapsed, when these berries began to exert their hidden, narcotizing and deleterious virulence. The two old dames began to complain of *failure of strength*

(1104), of great anxiety about the præcordia, and of cardialgia; and to be overcome by sleep. They accordingly sought their homes, and there, lethargy increasing upon them, remained *stupid* and *speechless* (454),” in the original “*stupidæ atque ἀφωνοί.*”

Then some children got at the berries. One was a boy of nine, “he at once experienced *stupor* (31), and pains in the stomach.” Three younger boys, aged seven, four, and two and a half respectively, “began in a few hours to feel languid in mind and body, and were seized with *excruciating pains about the præcordia* (1313), and then with *stupor* (31) and very severe *epileptic convulsions* (1077), from whence the two younger ones passed into an *apoplectic condition* (1117), and—the one about the middle of the night, the other early next day—expired.” The third, after an emetic, “vomited the berries, and at the same time *brought up much blood through the nose and mouth*” (488). The two old women “continued till the next day in their *lethargic, apoplectic condition; lying without any motion of the limbs, and, if pinched by the bystanders, opening their eyes, but uttering nothing* (1119).”

This case, accordingly, is unexceptionable as material, and the symptoms numbered will be found in the *Mat. Med. Pura* much as they stand here. But it is of much advantage to know that the “*aphonia*” of S. 454 means speechlessness, and not voicelessness; that the “*apoplectic condition*” of S. 1117 followed upon epileptic convulsions; and that the “*hæmorrhage from the mouth and nose*” of S. 488 occurred during vomiting from the operation of an emetic.

10. In the same volume (Obs. 118), there is a paper by *Valentini*, entitled “*Mania ab usu Belladonnæ pro Myrtillis.*” Only two symptoms are taken from it (S. 1172 and 1409), but as the narrative is brief and instructive it may be given here.

A country girl ignorantly sold Belladonna berries to several persons.

“An hour had scarcely passed, when the men who had eaten them were seized with sudden phlogoses, and with a

certain uneasy *somnolence* (1172), on emerging from which they staggered, and yawned after the manner of drunken persons. Some vomited, became insane, and, passing from sighing to dancing, laughed strangely, then they *raged* (1409) and snatched at the hair of the bystanders. Epileptic convulsions followed, to which the more delicate and some children succumbed."

I have only two remarks to make here. 1st. The "Schlummer" of S. 1170 hardly sufficiently expresses the "*somnolentia quadam turbulenta*" of the original. 2nd. Valentini's name might well be added to the authorities for epileptic convulsions having been caused by *Belladonna*.

10. In Dec. III, ann. 7 and 8, of this publication we have (Obs. 161) the source of the two symptoms referred to *Dillenius* (S. 1122, 1371). It is a narrative entitled "*De Strychni Manici Veterum vel Solani Somniferi Recentiorum baccis, earundemque esu noxio:*" and runs thus:—

After telling how the berries were eaten by a mother and her six children—"Forthwith some of them were seized with *profound slumber* (1122); some were driven into *such furor, that, their clothes cast aside and clad only in their shirts, they left their home in broad daylight and ran out into the streets, gesticulating, dancing, laughing, and uttering and doing many absurd and insane things* (1371)."

12. Obs. 176 in the same volume supplies the two symptoms credited to *Hoyer* (S. 1161, 1408). His paper "*De Delirio cum Ferociâ a Baccis Solani*" is as follows:—

"An old woman, going through the woods to collect herbs, came by chance upon some blackish berries, pleasant to sight and taste, as being moderately sweet. Of these she greedily devoured some—an unlucky meal for her! For a short time after there came on *delirium with fierceness* (1408) and *sleeplessness lasting for some days* (1161), from which being greatly fatigued she sank at last into a deep sleep: and so, without medication, recovered, but with great debility left behind."

We come now to four sets of observations taken from the "*Acta Nat. Cur.*," i.e. from the "*Nova acta Physico-Medica*" of the same Society.

13. The first is in vol. ii, from the pen of a Dr. Glimm (not Grimm, as Hahnemann has given it). Its title is "*Symptomata gravissima, ferè lethalia, a deglutitis seminibus Belladonnæ virosæ oborta.*" Thus he tells his story.

"A little girl of three years old, enjoying excellent health, on a certain day in the September of last year, spending the afternoon at another house, returned home in the evening *refusing all food* (549), *anxiously seeking drink* (1186), *perpetually trying to sleep but not obtaining it* (1158). In the middle of the sleepless night, *she vomited some of the food which she had taken during the day* (599). Being then attacked by *excessive convulsions, simulating true epilepsy* (1076), *she began to rave* (45). Being called to this unfortunate child in the early morning, I found her in the following astonishing condition. *Her respiration was violent, short, hurried, and anxious* (831). The pulse was very quick and feeble, scarcely to be felt, portending dissolution near. *A burning thirst, with great heat in all parts, tormented the patient, who now craved for drink, and now repelled it when offered* (1189). At this time she neither vomited, nor did the bowels act. The moist hair stood on end: *the countenance was red and swollen (the rest of the surface being pale)* (202), *the eyes were sparkling, rolling about, and projecting* (298). Her agitated little frame perspires, yet not so far as to be profusely sweating. There was *frequent and copious emission of thin, pale, watery urine* (751). She was talkative and *laughed loudly* (1362): but the mind was disordered, so that *speech did not correspond to thought* (1347), nor thought to sense, nor sense to the objects present. Her tender little frame was racked with *horrible spasms and repeated convulsions, the flexor muscles being chiefly involved* (1075). *In the intervals between the spasms she uttered cries audible far and wide, evidencing the pain she felt* (1081)."

This seems a good case, and judiciously extracted—our only gain being the knowledge of the tender age of the subject of the poisoning.

14. In the Appendix to vol. vi of these *Transactions*, we have the source of the eleven symptoms referred to *Eb.*

Gmelin. It is a "Historia morbi et mortis ex esu baccarum atropæ belladonnæ."

A man, æt. 69, ate many berries to quench his thirst, in the evening before returning home. "Scarcely had he sought his couch, when he was seized with *inquietude and anxiety* (1327) and began to be *delirious* (1334), and to pick at the bed-clothes, and *to throw them off* (1428). His wife, alarmed by these symptoms, resorted to the universal remedy of the common people, and gave him some brandy. Soon after being shaken with a horror, he *yawned frequently* (1177), rose up from bed, *declared his death imminent* (1431), and exhorted his family to prayer; not complaining of much pain, but affected in a great degree with *tremor* (1310) and *vertigo* (1). Being replaced in bed, he *sought continually to jump out of it* (1429), was uneasy, anxious, and now constantly delirious. At length he lay quietly, only sometimes throwing off the bed-clothes: and at length, racked with *convulsions* (1073) and *bereaved of his senses* (48) he became so prostrate, that in fourteen hours after eating the berries, after a few *sighs* (1320), he calmly expired."

All is well here also: save that the "*aliquot suspiria*" of dissolution should hardly stand as a separate symptom ("Stöhnen" S. 1320). At any rate, a note should be appended, adding "immediately before death."

(To be continued.)

ON THE PATHOGENESIS OF *ACONITE*, WITH
CLINICAL OBSERVATIONS.

By J. H. NANKIVELL, M.R.C.S., York.

(Continued from Vol. XXII, p. 92.)

Chest.—"Shortness of breath especially when sleeping after midnight, or when rising from the recumbent posture. The breathing through the nose is interrupted, especially when asleep." The first passage, viz. that in italics, is very worthy of observation, inasmuch as it delineates a feature in Pathogenesis which is quite in contrast with what obtains in general, we mean the slow, placid, normal respiration in the state of sleep; it is well also to bear in mind that *Pulsatilla* has a contrary effect. Under the rubric "Head" in this chapter on *Aconite* we find:—"The head feels giddy of a morning, as if he had drunk wine the previous evening; throbbing of the temporal arteries; *paroxysms of vascular erethism in the head.*" These passages afford correlations and analogies which throw some light upon the fact that *Aconite* may cause short breath during sleep. Moreover, the clinical sign attached to the latter half of the passage quoted merely declares that it is worth remembering as being an empirical symptom, which has yielded to the virtue of *Aconite*, although the drug has never as yet produced it.

*"Fætid breath."—This symptom taken by itself is of very little value as so many other medicines have it in common. It may be taken in conjunction with hæmoptysis or blood-streaked expectoration, or as arising from the depraved secretion of the glands and membrane of the mouth and fauces, so general in the onset of fevers, erysipelas, &c.

"The breathing is anxious, laboured, sobbing; or hurried and superficial; or loud, strong and sonorous, with open mouth and asthma" (? dyspnœa). The first part of this sentence points to lung disease, whether bronchial, pneumonic, or pleuritic (I have noticed it in whooping-cough);

the second part to a more advanced stage of these lesions; the third part either to asthmatical spasm, or more probably to congestive and apoplectic states of the lung or the brain. "Slow breathing during sleep." This scarcely reads like disordered respiration, unless the contractions of the diaphragm are so few and far between as to have fallen much below the normal standard, or to be not in due proportion with the pulse, it is also to be borne in mind as being the converse of the short breath, noticed above. Such alternating states are constantly met with in our studies of drugs, and are not difficult to account for.

*"Paroxysms of suffocation with anxiety. *Asthma*, oppression, contractive sensation in the chest, with slight feeling of oppressive anxiety. *Asthmatic complaints*, especially in sensitive, plethoric young persons (particularly young girls), who lead a sedentary life, or when the attack is brought on by the least excitement of feeling. Asthmatic complaints of full grown people, especially when accompanied with violent congestion of blood to the head, vertigo, a full and strong pulse, or even hæmoptysis. "A kind of asthma Millari, with a violent, hoarse, crowing cough, at night, danger of suffocation, and constriction of trachea. Anguish in the chest, arresting the breathing, and accompanied with warm sweat on the forehead."

This group of symptoms is a large one and refers to various forms and degrees of dyspnœa or asthma. There are no organic changes described such as the stethoscope detects, but in reading the several passages one cannot fail to be struck with the resemblances between the symptoms and those we have often noticed during our clinical labours, when one or more of the thoracic organs has undergone changes of a very serious and grave character. Doubtless each of the symptoms has been noticed in what, for distinction's sake, may be either functional or incipient malady, but far more frequently as a recurrent exacerbation in true organic affections.

Tha Cypher, of course, indicates that the asthma Millari was not a proving on a healthy body. But to return, the first sentence seems at first sight to represent either

nervous angina pectoris, or else the agony experienced when there is serous effusion in the pericardium or in the pleura, or when there is œdema or congestion of the lungs, especially that static congestion which comes on in fevers of a protracted character. But in none of these, except, perhaps, the first should we trust much to *Aconite*, especially if the general power of the system, and notably of the circulatory system, was much depressed. On the contrary if there was found to be active "congestion" of brain, heart or lungs, with paroxysms of suffocation, and therewith, as a matter of course, great anxiety, our drug might be given in the 3rd or 12th dilution with benefit. In a case which I had to treat of true cardiac angina, where the heart had been undergoing a slow process of fatty degeneration, the patient being 60 years of age, fat and plethoric, the ordinary remedies failing to give relief, and the patient staggering about in his room, groaning and exclaiming that he was dying (I could only think of the Laocoon), I gave *Brandy* freely, and *Morphia* in doses of the 20th part of a grain every quarter hour; with this he was happily relieved and has had no return of angina for three years last past. Although this case is by no means *à propos* to *Aconite*, it will not be thought out of place, *Opium* being one of the medicines in close relation with, and as we are taught, to be "compared" with *Aconite*, having in its clinical observations "neurocarditis with great excitement, trembling, and double beating of the heart, anguish, and oppression."

In another case a gentleman aged 54 had cardiac asthma, with "great anxiety, and paroxysms of suffocation," every morning about 2 a.m. He was a thin subject; and the walls of the heart had become extremely attenuated, the flapping pulsations being plainly seen in the left side of the epigastric region. He would awake from sleep, spring up in bed, grasp the coverings of his bed, and appear to be at the point of death. I tried all our approved remedies with but trifling benefit, and the medicine which gave most relief, was hot brandy and water; as he did not get better, he sent a long distance for a physician of the old school, who also failed to relieve the patient and was dismissed in a

few days. The patient then removed to London, and lived about twelve months, the attacks returning from time to time. This case also was not treated with *Aconite* by me, as I considered that the medicine was not indicated in such a debilitated system.

The next sentence ending with the words "oppressive anxiety," seems to describe conditions of bronchial congestion not acute, but complicated with spasm of muscular fibres of the large bronchial tubes. In such cases *Aconite* is often administered with good effect. This class of cases is not unfrequently a source of embarrassment to the medical attendant, inasmuch as the patient is so likely to take alarm at the dyspnoea and the contractive sensation in the chest, and to conclude that there is a more acute inflammation existing than the doctor recognises or is willing to allow. In persons with this kind of asthmatic diathesis, we find it a much easier matter to treat the disease than to assure the patient of safety. The complication of asthma with bronchial disease is not commonly of a dangerous character, but it requires time under any treatment for its mitigation or removal. It is not always that a reasonable time will be granted, and nervous persons, especially if surrounded by anxious friends, will not uncommonly tax the patience of their medical attendant in such a manner as he only who has passed through the ordeal, can fully realise. The next sentence refers to the asthma of young persons of highly impressible nervous symptoms, and upon this division of the subject little need be said.

The soothing effect of *Aconite* on the circulation in plethoric excitable persons is so notorious that it would be a waste of time to discuss it. I have often noticed that when administered in such conditions, it scarcely ever fails to induce balmy sleep and bland perspiration, a sleep far more sweet and beneficial than can be produced by any of the preparations of *Opium*. The next sentence terminates with the word *hæmoptysis*, and I may be at this place permitted to state, that before I had much experience in medicine, I entertained a great horror and dread of blood-spitting, whereas at present if there is good reason to believe that

the hæmorrhage has no origin in tubercular deposit, one is always hopeful of a cure, nay, even where tubercle is present, the resources of our art and science enable us to staunch the discharge again and again, or even to act so upon the capillaries of the lungs, that they shall contribute but a small share to the morbid actions engaged in the work of the destruction of vital forces. One of the most powerful styptics is certainly this noble drug.

"A kind of asthma Millari."—Although *Aconite* has cured a species of this disease, its cognate medicine, *Belladonna*, is far more reliable in Millar's asthma. This drug is found to be most promptly curative. The next sentence beginning "anguish in the chest," ought to have been grouped with the above-quoted "paroxysms of suffocation," as it belongs to the latter; certainly many improvements might be made in our *Materia Medica* by the transposition of sentences, which have somehow got out of place, and are not found amongst their congeners. It is here stated that the anguish is accompanied by warm sweat on the forehead. This distinction affords one of the many proofs how careful the provers were to make such distinctions as were true, and not only so but necessary for good therapeutic purposes; had they said merely sweat on the forehead, such an expression might have misled, and had any one given *Aconite* when there was *cold* sweat on the forehead, he would most probably have had cause to regret it.

"Aching pain in the chest, which is only relieved for a short time, by bending the trunk backwards. *Aching, oppressive, and constrictive* pain in the chest or side of the chest. Pain in the chest as if the sides were drawn towards one another. Feeling of weight in the chest as if compressed on all sides. Sticking pain with pressure on the right side of the sternum; digging with pinching on the right side."

Placing these symptoms in relation with the clinical observation of the *Materia Medica*, as well as those made in the course of our daily experience, we may safely say that they point very distinctly to rheumatic affections caused by exposure to drafts of cold air, especially such as one meets with

in railway travelling ; to rheumatism of thoracic muscles, especially the intercostals ; to rheumatism of intercostal nerves. Such attacks frequently follow violent exercise in boating, football, cricket, &c. &c., when the person being thrown into a state of profuse perspiration, does not take common precaution to avoid the effects of chill.

*"*Stitches of various degrees of intensity in the chest and sides of the chest, especially during an inspiration and when coughing, frequently accompanied with a plaintive and whining mood, with anguish or ill-humour, or with oppression of breathing."* This paragraph being marked with an asterisk, and printed in italics, was evidently thought to be worthy of much regard, and that it is so every homœopathic practitioner is well aware. It appears to delineate the onset of disease in or near the chest, rather than an advanced stage of it, and if met promptly with *Aconite* would probably in 19 cases out of 20 be well cured. The diagnosis of a given case in which such symptoms arise will depend much on the exact locality in which they are found, on the physical symptoms with which they are associated, and on other symptoms by which a man of ordinary skill is enabled to differentiate and, so to speak, put his finger on the organ and portion of the organ affected. Thus, these symptoms might be found in inflammation of the diaphragm, inflammation of the convex surface of the liver, muscular or serous pleuritis, pleuro-pneumonia, patchy pleuritis in phthisis, inflammation of walls and coats of vomicæ, the pneumonia of infants, pericarditis, carditis, and endocarditis. These and other complications enumerated in the clinical observations would infallibly be much relieved by the drug.

"Pneumonia and pleurisy, especially in the first stage, as long as there is violent fever accompanied with great heat and thirst, dry cough, and extreme nervousness. Pain, as if bruised in the region of the lowest rib (or in the middle of the sternum), increased by contact ; the patient complains a good deal about it. Painful creeping and crawling in the chest as of beetles."

Aconite has never caused true pneumonia or pleurisy

with all their grave organic changes, but it has lent an aid in the first stage of each of a most important character, and notably when the febrile process has been uncomplicated. For instance pneumonia and pleurisy when induced by exposure to cold or wet, and setting in with shivering followed by strong reaction, are very amenable to the influence of *Aconite*. This drug if given early, even in the cold stage which may precede these inflammations or at the onset of the fever, will frequently arrest the morbid action altogether, but may require to be followed by *Bryonia* or *Phosphorus* or some other medicine. But if the lung disease comes on in the course of a typhoid or any other specific fever then *Aconite* will do very little for it, and indeed is not indicated, for the inflammation partakes of the specific characters of the fever and *Aconite* has but a questionable vocation.

There is an expression in the text viz. "pain as if bruised in the region of the lowest rib" which reminds me of a clinical experience in the days when *Aconite* was unknown to me except as another name for the pretty monkshood; and had I known its properties, the patient would have been saved much suffering.

CASE.—A young gentleman, aged about sixteen (now a highly-respected surgeon), took cold and was seized with acute pain in the angle of the chest formed by the short ribs and the diaphragm. Limited pleurisy was diagnosed from the fever, the pain increased by pressure; the cough, &c.; but there was this fact to be noticed, that although the part was stethoscoped and percussed daily, there was neither pleuritic rubbing nor dulness to be made out, and it was therefore concluded, rightly or wrongly, that the space in which the disease existed must have been extremely circumscribed. Nevertheless, each descent of the diaphragm caused great pain, and even cupping was resorted to and *Calomel*, *Tartar emetic*, and Dover's powder administered until at the end of seven or eight days the disease began to subside. This is one of the many cases which, in thinking of, one cannot help lamenting that so many years were passed in carrying out a form of medical practice which, to say the least of it, has

a strong taint of the rough and the barbaric. The sentence quoted also mentions severe pain in middle of sternum. This probably points to disease, especially affecting the anterior mediastinum. I am not aware that I have ever seen serious disease of this part so as to be able to define and diagnose it as such.

The grotesque subjective symptom, which stands last in our rubric, is placed in italics, and, therefore, must have been considered as worthy of insertion by the provers; and ridiculous as it seems, the fact of its being recorded proves the thorough honesty of the experimenters. They never hesitate to record anything which has been a trouble and inconvenience to poor human nature; in truth many "nervous" discomforts which imbitter the lives of patients are dismissed with a smile of incredulity and utter absence of sympathy by the strong and healthy. It is the thorough recording of symptoms such as these which has laid homœopathy open to the sneers and gibes of our opponents. But to proceed, we find this symptom also under the rubric "Back," "crawling in the spine as of beetles." One has felt a sensation allied to this in the lips and tongue after chewing aconite seeds, when the numbness caused thereby is disappearing. On the surface of it this perverted state of some minute nerves does not seem to call for much attention on the part of a student of our *Materia Medica*, and yet, notwithstanding, we doubt not that should this trouble coexist with others of a more grave nature we should be wise in heeding its claim to attention.

The remainder of the original provings refer to various cardiac disorders. To take them in order we first have "Compression of the chest in the region of the heart." This symptom is one which is felt after violent exercise in rowing or in playing at cricket. I know not what is the morbid change immediately ensuing after over-exertion, whether it be a degree of congestion of the muscular structure or not, but I have seen a case where there has been now for twelve months an imperfect contraction of the heart about every tenth beat in a fine young fellow of twenty, but the most careful examination as yet does not

manifest any hypertrophy or change from a healthy state in the valves. The least attempt at active exertion, however, is followed by a feeling of "compression." *Arsenic*, followed by *Bovista*, have seemed to give some relief, but it is doubtful if *Aconite* would render the least service in the present stage. "Slow shocks or pushes in the region of the heart from within outwards," a symptom very commonly met with in "palpitation of the heart in young, plethoric, sensitive persons — especially when leading a sedentary life." This clinical experience gives so accurately what one meets with in actual practice so commonly, that no better could have been written to describe that excitable, irritable condition of the heart which *Aconite* so signally and charmingly allays.

Carditis.—In a large proportion of cases this formidable disease comes on, as everybody knows, in the course of rheumatic fever, but that it has sometimes a more direct and idiopathic origin we cannot doubt. As Dr. Hughes has remarked in his excellent but too brief, little 'Manual of Therapeutics'—"If we are fortunate enough to catch the disease at its first breaking out one drop of the first decimal dilution of *Aconite* once an hour, will almost always arrest the disease within twenty-four hours." The idea of the metastasis of rheumatism from some other part of the body to the heart is now almost obsolete, and the word "procession" of the rheumatism to the heart seems a far better term as expressing what most commonly takes place. I am desirous, however, to record in this place a veritable instance of metastasis which I witnessed and which was induced by the patient himself.

A hind had suffered from chronic sciatica for about ten years, on one occasion he applied a mustard poultice to his hip, there was sudden relief of the sciatica but the pericardium was attacked with very acute inflammation and the patient had a narrow escape of his life. It was in my allopathic days, and therefore the treatment would not have much interest in these papers. Nor can I refrain from recording another case in which, in a case of pure rheumatic pericarditis in a youth of twenty,

I, according to some authority of the day, directed the *Ung. Ant. Tart.* to be rubbed in over the region of the heart's apex, and the pustulation which followed could not be healed for *several months*, thus giving rise to great misery. But since I have used *Aconite* and *Bryonia* in acute rheumatism it has rarely happened that the heart has become implicated in the disease, at all events to any severe extent.

"Chronic *affection of the heart* accompanied with constant pressure on the left side of the heart, the breathing becoming laboured during strong bodily exercise, and when going up stairs, with stitches in the region of the heart, oppressive congestion of blood to the head, fainting fits, and aggravation of the symptoms in the face and spine." In this rather long clinical observation, there may be noticed a list of symptoms which may present themselves any day to the observant physician either in their totality or only in part. As far as they can be read between the lines and in a pathological light they seem to point to hypertrophy with or without dilatation of the cavities, to incipient failure of the aortic valves, to a weak and emaciated state of the muscular structure of the heart, or lastly to fatty degeneration, but unfortunately we have no stethoscopic indications as land-marks to guide us, and, therefore, it may be stated briefly that *Aconite* would not be strongly indicated except in the first-mentioned state, viz. in a true conservative hypertrophy induced but too frequently, by what the text describes as *strong bodily exercise*. A case has recently come before me of this character in a young man who had laboured awfully in some iron works, reminding one of the description Virgil gives of the Cyclops at the anvil, "*Tum illi inter sese multâ vi brachia tollunt.*" In the instance I refer to the man was engaged either wielding a huge sledge-hammer or swinging blocks of iron at a white heat so as to place them beneath a Nasmyth hammer and then turning them from side to side until they were sufficiently welded, thus exposed to intense heat and compelled to drink cold water in large quantities to supply the waste of fluid by sweating, it is not to be wondered at that carditis should

have ensued. The heart became so much weakened and embarrassed that the patient was, of course, compelled to discontinue his trying work and to find an easier occupation. *Aconite* followed by *Arsenicum* have benefited this martyr.

*“*Palpitation of the heart with great anguish, general heat, especially in the face, and great soreness and debility of the limbs.*” As far as I can read and understand these two sentences, they represent such a heart-beating as might exist with fatty degeneration, but putting together the proving of such a reliable character as to be marked with an asterisk, I say, placing this in connection with the clinical or empirical symptom, we can scarcely fail to realise general emaciation of the muscular system, and herein of the heart especially, hence the *soreness* and *debility* which must accompany this stage of mal-nutrition. The picture here given would most probably be found in persons of middle age.

“Palpitation of the heart in young, plethoric, sensitive persons, especially when leading a sedentary life.”

Such an empirical proving as the one here given, cannot fail to commend itself to the judgment and understanding of every experienced physician. If one were to relate the cases one has met with *like* that described in the text, and in which *Aconite* has been of most egregious service, this analysis would be increased beyond all reasonable bounds. It may, however, be remarked that the palpitation here referred to is characterised by marked remissions and variations, but is, for the most part, found to exist with an accelerated pulse; it is very different from the palpitation in anæmiated persons, the heart, in the present instance, having more force, and good blood to act upon. Certainly, in most of these cases there is a notable complication of hysteria.

(From the *Oest. Zeitschrift.*)

“Sobbing, owing to a retarded circulation of the blood, and a distinctly felt congestion of blood in the lungs. *Weight and feeling of fulness in the chest, with sensation as if*

the lungs would not expand sufficiently, which obliges him to take a deep breath frequently."

Both these passages refer to capillary congestion in the lungs, a condition of things which, by the reflex effect in and through the pneumogastric nerve, must give rise to sobbing or sighing, gasping, in fact forced, compelled, deep inspiration. The passages very vividly picture an incipient engorgement of the lungs, as produced in many instances by extreme cold, and especially if accompanied with exposure to damp. It is scarcely necessary to remark that we may have in such a state of things the first stage of a pneumonia or a bronchitis, nor to those who have had any experience in the use of *Aconite* is it necessary to affirm that *Aconite* has in thousands of instances relieved a similar embarrassing disorder, and cut short, as with a charm, the approach of some more formidable complication.

"Mucous rattling, which can be heard at a distance ; stertorous breathing ; in the evening all the symptoms of the chest are aggravated." In our endeavour to realise and throw some degree of light upon these pictures of morbid states, so as to assist in making them useful at the bed-side, we have to question them, so to speak, as to their meaning. For instance, in the words last quoted, it is not reasonable to conclude that the "mucous rattling" has any bearing on what is commonly known as the *death rattle*, for when the trachea and bronchial tubes at the approach of death become filled with viscid serum, through which the air is passing and repassing, there is no probability that *Aconite* would lend an aid. This state of things is at times so aggravated that we have seen in a fatal case of double pneumonia quantities of froth like sea-foam thrown off at every expiration and lodge on the bedding. In one case of great exhaustion after a protracted fever, with congestion of lungs, cold clammy skin, and low muttering, and therewith a mucous rattle, so like a death rattle that doctor and friends gave up all for lost, in this one case only did I see recovery take place. The chest was enveloped in linseed-meal poultices and brandy given to any amount, and a favorable crisis arrived, which ended in recovery ; but I maintain that

in such a state as this no medicine, or rather no drug, either in large or small doses, can be depended upon to render real service.

The expression "stertorous breathing," reminds one that in the clinical observations we find "*Aconite* is a valuable preventive against apoplexia sanguinea;" and we may be sure that in a plethoric person affected with the preliminary symptoms of apoplexy *Aconite* is most reliable: when there is "redness and heat of the face, congestion of blood to the head, throbbing headache, ringing of the ears, the appearance of sparks or flashes before the eyes, and especially if there is loud beating of the heart and a throbbing, sledge-hammer pulse, &c."

"When breathing he feels as if the air-passages were too much distended, so that the air passes with extreme facility in and out." Bönninghausen has a symptom apparently in relation with this very "long breath with the mouth open." The symptom is certainly one of rare occurrence, and, it would seem, is the very opposite of asthmatic difficulty; it stands by itself without any asterisk or with any clinical character, and may therefore be dismissed as of no great moment.

"Oppression of the chest, increased by a deep inspiration. Aching pain in the upper and left region of the chest; the place is painful when touched. Sense of weight behind the sternum, preventing a deep inspiration."

This group of italicised symptoms has been observed by many provers; we find oppression, aching pain, pain on pressure, and sense of weight. Bönninghausen has in one sentence given the pith of the whole in the words "*Angst hindert das Athmen.*" In the 'Clinique' we find "*asthma owing to congestion of blood to the thoracic viscera;*" but the passage quoted would seem to point more to a rheumatic condition of the chest than to one of simple congestion or of asthmatical spasm, and in the numerous cases of a like kind which have come before me, more especially amongst persons much exposed to rough weather, and signally in dispensary practice, *Aconite* has played its rôle well, in giving relief to affections of the chest of this character. Such troubles have not uncommonly associated with them

pains in the muscles about the shoulder-joint, and therewith pains between the scapulæ. Most of these affections are myalgies, they are frightfully aggravated by the act of coughing, and still more by sneezing; and experience teaches that, as a remedy, *Aconite* is well backed and seconded by *Cocculus indicus*. But these symptoms will be found brought out with more or less distinctness in passages which will follow.

"Painful pressure from the sternum to the vertebral column. Weight in the chest, accompanied with a number of fine, but violent, stitches in the left breast from within outwards. Violent dartings in the chest." These symptoms, except the last, are so frequently sounded in our ears that we are saddened at the reflection how much pain there is in the world, even of a kind that is not, so to speak, acute. The expression *violent darting* is not frequently heard, it has not certainly happened much in our experience. What is the true pathology of these pains? Are they rheumatic neuralgies, giving rise to finer or coarser shocks, not unlike those caused by electricity? Do they arise from the yearnings of badly nourished nerve-cells, or from gouty conditions of nerves and muscles? or are they caused by a disordered state of the capillary vessels—a state of oscillation between engorgement of an asthenic character and the opposite state of comparative emptiness? Who can say? The attempt to look within the system and divine the exact condition of the diseased organs cannot be at all times successful and satisfactory; and hence, in the huge majority of cases we treat, we must acknowledge, if we are honest, that we fall back on our good old motto *similia similibus curantur*.

(To be continued)

ON THE CHARACTERISTICS OF THE PRINCIPAL
COUGH REMEDIES.*

By Dr. B. HIRSCHL, S. C.

THE following article will probably meet with opposition from two sides—from pathologists and from therapeutists. The former will find the designation extremely unscientific; they will say, and not without some show of reason, that a cough is a symptom that owes its origin to vastly different processes which cannot be brought under one heading. Those attached to the old school will, on reading its superscription, repeat their reproaches that we are unscientific and only cure symptoms. And yet we need make no apology to a homœopathist, for he knows that we do not neglect individualisations, although we bring the most heterogeneous processes together under one principal symptom. Such a principal symptom is cough; it is the guide that often leads us to the diagnosis and gives certainty to our choice of remedies; it is often the most prominent and torturing suffering which waits for help; it often shows the origin of the complaint, its seat, its characters, its course, its danger. Just as we may bring cephalalgæ and pains in the stomach, no matter how unscientific the name may look under one heading, yet as soon as we recognise the different conditions at the bottom of them, we know how to separate them, and this we must do with coughs. The homœopathic practitioner will, even with this unscientific designation, be all the less inclined to complain when he knows the relative differences which guide us in our choice of the remedies collected under this symptom. Nay, this designation is thoroughly practical, and likewise justifies its connection, just as it may very likely happen to the clinical teacher to collate all remedies against diarrhœa or obstruction only on the condition that he shall again separate them according to their differences. This is not a pathological but a clinical method.

* From the *Zeitschrift für Hom. Klinik*, vol. xxi. Translated by Dr. Burnett.

We shall find the other category of our opponents amongst the practitioners. They will say, he can only tell us what we know already. The author has not the arrogance to say that he is coming forward with something new. But when we cast a glance at the material which we here have, at all the remedies which occur with "cough" symptoms, and which thus claim not to be forgotten in our choice of medicines, and when we observe that young practitioners do not know their way out of this *embarras des richesses*, and that many an old physician is not so very certain in his choice, since here the deciding differences are so difficult to lay hold of, then a critical undertaking of this kind appears justified. The author will therefore endeavour to bring out the most weighty considerations as clearly as possible, and recommend the most applicable of the chaotic mass of material for consideration.

The importance which the specially scientific ones attach to coughs may be gathered from a remark of H. E. Richter (*Elements of Clinical Medicine*, vol. ii, p. 191) which runs thus:—"In lung diseases the cough must be regarded on the one hand as favorable, as it were a life-saving act, inasmuch as these efforts of the organ constitute the only possible way of obviating asphyxia by ejecting the secretions or foreign bodies, expanding the alveoli, preventing the cohesion of their walls, &c. On the other hand the cough may very easily become hurtful, inasmuch as, when the lung tissue is soft and atonic, it may bring on emphysema of the lungs, lesions of the organs, and pulmonary hæmorrhages; inasmuch as it deprives of natural sleep and is a principal cause of the colliquative night sweats; inasmuch as it may cause all sorts of unhappy accidents, such as abdominal and intercostal myalgia, nervous conditions, hæmorrhages, herniæ, abortion." Further on (p. 199) we read: "*Symptomatically we have often particularly to deal with the amelioration of the tickling sensation and of the cough.* For these phenomena frequently assume a spasmodic character, especially in the nervous and youthful; they disturb the sleep and thereby also the healing processes; or they excite in the

susceptible, and in those with weak muscles and tender tissues, painful strains (false rheumatism) in the costal, thoracic and abdominal muscles, or emesis, or even result in bronchiectases, pulmonary emphysema (even rupture of the alveoli), prolapses, protrusions of the bowel, hæmorrhages from the lungs and other cavities of the body."

A cough is a short, resonant, more or less forcible, impulsive expiration, with a more or less narrowed glottis, occurring generally after a deeper and more powerful inspiration.

The causes of the different tones usually depend on the vocal formation. Expirations and inspirations often alternate. A cough can be produced voluntarily and also directly from the spinal cord; generally it is a reflex action depending on conditions of the mucous membranes (inflammations, catarrh, collection of mucus, nervous excitement, foreign bodies, such as dust and the like), of the superior parts of the air-passages, especially of the larynx, and very often of the thoracic organs (bronchi, lungs).

Formerly a cough was looked upon as the most positive sign of a lung affection, but experience has taught us that it may be totally absent in such cases even in pneumonia and tuberculosis. On the other hand a cough may be present in conditions that have no connection with the thoracic organs, viz. in many cerebral and spinal diseases, from an elongated uvula, from diseases of the heart, pharynx, œsophagus, stomach, and intestinal canal, so that it may even simulate phthisis.

Likewise mechanical influences such as tumours may produce a cough by pressing on the vagus. But as soon as there is a spot in the respiratory organs where the tissue has become destroyed, greatly compressed, paralysed by exudations, or become callous, or the susceptibility has become deadened (Wunderlich), then the irritation which caused the cough vanishes.

The individual kinds of cough accord pretty definitely with certain forms of disease, so that from its tone or kind we can draw conclusions as to the seat and form of the disease. But we must be very prudent in thus drawing

conclusions so as not to be led into manifold and great mistakes. Thus we like to differentiate laryngeal, tracheal, bronchial, pulmonary coughs from their tone and depth, yet we cannot do this with certainty. From its degree, from the periodicity of the attacks, some pretend to recognise, now a beginning tuberculosis, then a simple catarrh, or a pneumonia, or emphysema, or spasmodic cough, yet there is no certain criterion for all this. The most insignificant morbid process may have the most severe and exhausting kind of cough, such as is often the case in neuroses.

Our judgment must depend on the *repetition* of the cough, as also on the fact of its being by *day*, by *night*, and on its *intermissions* which sometimes last for weeks, and on its being *paroxysmal*; inasmuch as the *tone* depends more on the condition of the *larynx* than on that of the more deeply lying thoracic organs, so it will be evident that it cannot be made use of for diagnostic purposes.

The kind of *secretion* is of very great importance. Dry chronic coughs are always suspicious, unless they are purely nervous.

The cough is dry at the commencement of the organic diseases, and only gets moist when the secretions become movable. If the secretion comes from far down, the condition is always more dangerous than when the cough is superficial, and if the secretion becomes continuous and yet affords no relief, and the strength begins to fail, then the prognosis is unfavorable. Such is the case in chronic bronchitis, in tubercular suffering, pulmonary abscesses.

For the physician treating a cough, no matter what school he may belong to, it is important that he distinguish—

- a. The seat and point of origin of the cough.
- b. Its character as regards the causal morbid process.
- a. Here we must see whether the cough has its origin in the larynx, in the trachea, in the bronchi and its ramifications, or in the lung itself; in the pleura, in the heart,

in the vagus, in the spinal cord,—whether the mucous membrane or the parenchyma itself, the blood-vessels or the nerves (primarily or secondarily), are affected.

b. It is especially important to know whether the process be *catarrhal* (simple or complicated with fever, acute or chronic catarrhal); whether it be *inflammatory* (acute or chronic, simple or croupous); whether it be *organic* (with textural changes or not); or whether it be *nervous* (origin peripheral or central).

Arranged in this manner we find a cough is a most important symptom in the following *forms* of disease :

I. In *simple catarrh*, acute or chronic, and with or without fever; to wit—

- a.* Laryngeal catarrh.
- b.* Tracheal catarrh.
- c.* Bronchial catarrh.
- d.* Pulmonary catarrh.
- e.* A peculiar form of epidemic catarrh, such as influenza.

II. In *inflammations of the vocal and respiratory organs*, acute or chronic in form; to wit—

- a.* Laryngitis, simple or croupous (angina membranacea), diphtheritic, aphthous, pustular, submucous inflammations (œdema glottidis), perichondritis, epiglottitis.
- b.* Tracheitis.
- c.* Bronchitis, simple, croupous, diphtheritic.
- d.* Pneumonia, simple, croupous, interstitial, or hypostatic.

III. With *organic metamorphoses of the vocal and respiratory organs*.

- a, b.* Laryngeal deformities and neoplasmata, helcosis laryngis, tuberculosis, polypi, carcinoma, stricture, stenoses, formation of diverticula, fistulæ of the larynx and of the trachea.
- c, d.* Tuberculosis (infiltrated and miliary), hæmorrhage from bronchi and lungs, bronchiectasis, pulmonary emphysema, insufficiency and atrophy, cirrhosis, carcinoma, and other neoplasmata,

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ossifications, apostemata, gangrene of bronchi and lungs, pneumothorax.

Here we must further enumerate—

- e. Affections of the pleura which excite pulmonary cough either sympathetically or mechanically, as hæmorrhages, serous and inflammatory exudations, tuberculosis pleuræ, and, finally,
- f. Cardiac affections which, by obstructing the reflux, produce pulmonary hyperæmia and thus excite to cough.

IV. In *neuroses*. These arise either as primary forms from irritation of the vocal and respiratory nerves, or secondarily from central irritation ; to wit—

- a. Spastic, tickling, spasmodic coughs.
- b. Pertussis (according to some a neurosis of the bronchi, according to others an affection of the vagus).
- c. As symptom of a nervous stenosis of the glottis in children and adults.
- d. As symptom of bronchial asthma of the nervous kind ; or,
- e. Angina pectoris, cardiac spasm. Finally,
- f. As collateral phenomena of a central affection of the spinal cord, spinal irritation (hysteria).

Under these forms we believe we have exhausted all the kinds of cough which present themselves for clinical treatment. A more elaborate description, which may be found in all the handbooks of pathology, my readers will willingly spare me. Such is not the object of this treatise, which has more especially to deal with therapeutics.

The homœopathic physician has *besides the foregoing points of observation*, which are common to all physicians, and which must be thoroughly considered by him, too, also the *essential peculiarities of the cough itself* to bring within his ken, if he intends to make a good choice from the remedies which affect it ; such are—

1. The tone of the cough.
2. The subjective sensation, the kind of pain.

3. The seat, the origin as far as the patient can define it, or the tone and depth which it gives.
4. The repetition, time of occurrence.
5. The dryness, or the sputum and its nature.
6. The exacerbation or amelioration by certain conditions, such as eating, drinking, lying down, moving about, rest, air, cold, warm, &c.
7. The concomitant phenomena, as fever, pains in other parts, complications.

By observing all these particulars, which are for the physicians of the other school for the most part quite insignificant and useless, the remedies to be used can be diagnosed in the several cases.

But the results of the physiological *materia medica* with regard to coughs are so numerous that a collection of all the drugs which have this symptom gives us an endlessly long series. Hence we find in the clinical handbooks, in the *Codex of Symptoms* in the repertories, a whole cohort of drugs which by their very number may well confound the practitioner; and this difficulty in differentially choosing is increased by their having no *characteristic signs* attached to them. It must not therefore be regarded as an *Ilias post Homerum* when the author, guided by his own special experience, undertakes to excerpt from the many, such as seem worthy of being thus privileged, and to define their most pregnant characteristics. If other practitioners would but follow suite, we should soon get, at least for this category, a monographic limitation, in so far as a daily multiplying and enriching experience allows of.

In order to make this article as complete as possible, we shall now append a view of all the drugs that have the symptom cough, at least as far as we know at present.

Alphabetically they run as follows :—

Aconitum.	Alumina.
Actæa racemosa.	Ambra.
Æsculus hipp.	Ammoniacum.
Æthusa.	Ammonium (Carb., Caust., Mur.)
Agaricus musc.	Anacardium.
Agnus.	

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Angustura.	Chamomilla.
Antimonium.	Chelidonium majus.
Ant. tart.	Chenopodium.
Apis mellifica.	China.
Apocynum can.	Cicuta.
Argentum.	Cina.
Arum trifol.	Cinnabaris.
Arnica.	Cistus.
Arsenicum.	Clematis.
Arum.	Coca.
Asa.	Cocculus.
Asarum.	Coccus cacti.
Asclepias.	Coffea.
Asparagus.	Colchicum.
Athamantha.	Colocynthis.
Aurum (Mur. et Purum).	Conium.
Baptisia tinctoria.	Copaiva.
Baryta (Carb. et Mur.)	Cotyled. umbil.
Belladonna.	Corallium.
Benzoic acid.	Crocus.
Berberis.	Crotalus.
Bismuthum.	Croton.
Borax.	Cuprum.
Bovista.	Cyclamen Europ.
Bromine.	Daphne.
Bryonia.	Digitalis.
Bufo.	Drosera.
Cadmium sulph.	Dulcamara.
Caladium.	Erigeron Canad.
Calc. carb.	Electricitas.
Camphora.	Eugenia jamb.
Cannabis.	Eupatorium perfoliatum.
Cantharides.	Euphorbia.
Capsicum.	Euphrasia.
Carbo (An. et Veg.)	Ferrum.
Cascarilla.	Gelseminum nitid.
Castoreum.	Gentiana.
Causticum.	Graphites.
Cepa.	Gratiola.

Guaiacum.	Mercurius sublim.
Guaræa.	Mercurialis.
Helleborus.	Millefolium.
Hepar sulph.	Murex.
Heracleum.	Muriat. acid.
Hippomanes.	Naja tripudians.
Hydrastis Canad.	Natrum (Carb., Mur., Sulph.)
Hydrocyan. acid.	Niccolum.
Hyoscyamus.	Nitrum.
Hypericum perforat.	Nitri acidum.
Ignatia.	Nux moschata.
Indigo.	Nux vomica.
Ipecacuanha.	Oleander.
Iris versicolor.	Ol. animale.
Iodium.	Ophistoxicon.
Jatropha Curcas.	Oniscus.
Kali bichrom.	Opium.
Kali carb.	Oxal. acid.
Kali chlor.	Paris.
Kali hydriod.	Petroleum.
Kalmia latifolia.	Phellandrium.
Kobaltum.	Phosphorus.
Kreosot.	Phytolacca.
Lachesis.	Platina.
Lactuca vir.	Plumbum.
Lamium.	Podophyllum pelt.
Laurocerasus.	Prunus.
Ledum.	Pulsatilla.
Leptandria.	Raphanus sat.
Limulus cyclops.	Ratanhia.
Lobelia.	Rhabar.
Lycopodium.	Rhododendron.
Magnesia carb.	Rhus tox.
„ mur.	Rumex crispus.
„ sulph.	Ruta.
Manganum.	Sabadilla.
Menyanthes.	Sabina.
Mephitis put.	Sambucus.
Mercurius sol.	Sanguinaria.

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Sassaparilla.	Sulphur.
Secale.	Sulph. acid.
Selen.	Tabacum.
Senega.	Taraxacum.
Sepia.	Taxus.
Silicea.	Terebinthina.
Silphium lac.	Teucrium.
Solanum.	Trifolium.
Spigelia.	Thuja.
Spongia.	Veratrum.
Squilla.	Verbascum.
Stannum.	Vinca.
Staphysagria.	Vipera red.
Sticta pulmonaria.	Zincum.
Stramonium.	Zingiber.
Strontiana.	Zizia aurea.

Certainly many of our readers will be astonished to find one or other of these drugs in this "Register of 'Cough Remedies;'" and certainly not a small number of them owe their places in it only according to the letter of the drug-proving, and not, if we may so express ourselves, according to the spirit or the deeper signification of the same. With some of these pseudo-cough remedies we may perhaps find that they owe the honour of being placed here to the subjectivity of the prover, who may have been easily excited to cough, or whose larynx or lungs may have been especially susceptible of irritation. With others, the cough is probably a mere accident, an intercurrent acute condition that might have been registered from a sense of peculiar conscientiousness. In other cases again an acrid ingredient, the *material* of the remedy that was being proved, may have caused the irritation. We can, therefore, only regard the cough as due to the action proper of the remedy when it occurred constantly in all, or in nearly all of the provers, and to know this we must get an insight into the daybooks of the provings. In any case this is a sufficient reason for our preferring those drugs that have been best proved.

We only get the true criterion of its value in *clinical*

experiments. The simile of the drug-proving *guides* us to a choice, success at the bedside is necessary to *confirm* its correctness. As soon as a drug symptom recurs in the *same intensity* in *many* and *good* provers and thus enters the series of valuable pathogeneses, and then many and good practitioners confirm it by success at the bedside, then we may say it is incontrovertibly demonstrated. It is from this point of view that we start when we expunge not a few of the drugs figuring in the list of cough remedies, and endeavour to *confine* ourselves within less extensive limits, so that we may attain to a greater certainty within the narrow circle.

The *first series* of our cough remedies, those that are especially worthy of attention, will consist of such drugs as have been *put to the test* in *well-arranged provings* and also have *stood the fire of clinical experience*.

A *second series* will consist in part of such as have been only *imperfectly or unreliably proved*, and in part of such as are supported only by *single clinical experiments*.

First Series of Cough Remedies.

In this first series we shall distinguish the most commonly used remedies in a manner that is customary in the homœopathic School.

- a. *The Polychrests*:—*Aconit.*, *Ant. tart.*, *Arnica*, *Belladonna*, *Bromine*, *Bryonia*, *Calc. carb.*, *Chamomilla*, *Conium*, *Drosera*, *Dulcamara*, *Hepar sulph.*, *Hyoscyamus*, *Ignatia*, *Ipecacuanha*, *Iodium*, *Kali bichrom.*, *Laurocerasus*, *Mercurius*, *Nux vom.*, *Opium*, *Phosph.*, *Puls.*, *Senega*, *Sepia*, *Spongia*, *Sulph.*, *Veratrum*; in all 28 of the 208* recommended in the list.
- b. *Those less frequently used*:—*Ambra*, *Ammonium muriaticum*, *Arsenicum*, *Carbo veg.*, *Causticum*, *China*, *Cina*, *Cuprum*, *Ferrum*, *Lactuca virosa*, *Nitric acidum*, *Stannum*; in all 12, so that by counting the 28 we have 40 of the 208 cough

* Properly 206. In the original there are, indeed, 208; but under A we find *Actaea racemosa*, and under C *Cimicifuga*; and again under A, *Æsculus hipp.*, and under H, *Hippocastanus æsculus*; this leaves us 206.—Translator

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remedies, and these will satisfy all the usual wants of practice.

Now, let us subject the first series to a *collective arrangement according to certain principal clinical points of view*, by which means we get the following divisions:

I. Arranged according to the *seat and point of origin* of the cough, and in order according to the principal direction of their action.

- a. Specially influencing *laryngeal and tracheal affections*:—*Acon.*, *Bell.*, *Brom.*, *Cham.*, *Con.*, *Hep. sulph.*, *Hyoscyamus*, *Ign.*, *Ipec.*, *Iod.*, *Kali bichrom.*, *Lauroc.*, *Merc.*, *Nux v.*, *Op.*, *Phosph.*, *Puls.*, *Sep.*, *Spong.*, *Sulph.*, *Ambra*, *Lactuca vir.*, *Nitr. acid.*
- b. Specially influencing *bronchial and pulmonary affections*:—*Acon.*, *Ant. tart.*, *Arn.*, *Bell.*, *Bry.*, *Calc. carb.*, *Cham.*, *Droser.*, *Dulcam.*, *Hepar sulph.*, *Hyosc.*, *Ipec.*, *Iod.*, *Kali bichrom.*, *Mer.*, *Nux v.*, *Op.*, *Phosph.*, *Puls.*, *Senega*, *Sep.*, *Sulph.*, *Verat.*, *Ammon. mur.*, *Arsen.*, *Carb. veg.*, *Caut.*, *China*, *Cina*, *Cupr.*, *Ferr.*, *Nitr. acid.*, *Stann.*
- c. Influencing the *brain and spinal cord*, more especially the vocal and respiratory *nerves*:—*Bell.*, *Cham.*, *Con.*, *Dros.*, *Hyosc.*, *Ignat.*, *Ipec.*, *Lauroc.*, *Nux v.*, *Op.*, *Phosph.*, *Verat.*, *Ambra*, *Caut.*, *China*, *Cupr.*, *Lact. vir.*
- d. Specially affecting the *heart and the large vessels* (reflected cough):—*Acon.*, *Bell.*, *Lauroc.*, *Op.*, *Phosph.*, *Veratr.*, *Arsen.*, *Nitric acid.*
- e. Specially affecting the *stomach and intestinal canal* (sympathetic cough):—*Ant. tart.*, *Bry.*, *Calc. carb.*, *Ipec.*, *Nux vom.*, *Puls.*, *Sep.*, *Sulph.*, *Ver.*, *Ammon. mur.*, *Arsen.*, *China.*
- f. Specially affecting the *pharynx, uvula and neighbouring parts* (radiating cough):—*Bell.*, *Bry.*, *Hepar sulph.*, *Merc.*, *Nux v.*, *Phosph.*, *Puls.*, *Sep.*, *Sulph.*, *Ver.*, *Carb. veg.*, *Nitric acid.*

II. According to the *morbid processes*, we get them in order of merit as follows :

- a. Specially influencing *catarrhal affections* :—*Acon.*, *Ant. tart.*, *Arn.*, *Bellad.*, *Brom.*, *Calc. carb.*, *Drosera*, *Dulc.*, *Hep. sulph.*, *Ipec.*, *Iod.*, *Kali bichrom.*, *Merc.*, *Nux vom.*, *Puls.*, *Sen.*, *Sep.*, *Spongia*, *Sulph.*, *Verat.*, *Amm. mur.*, *Carb. veg.*, *Caut.*, *Nitric acid*, *Stan.* Of these the principal remedies for acute catarrhs with fever are :—*Acon.*, *Bry.*, *Bell.*, *Merc.* In the first stage especially—*Acon.*, *Bell.*, *Brom.*, *Bry.*, *Dros.*, *Ipec.*, *Iod.*, *Kali bichrom.*, *Merc.*, *Nux vom.*, *Spong.*; in the second stage, where the process is breaking up—*Antim.*, *Hepar sulph.*, *Puls.*, *Sen.*, *Ammon. mur.*; for the chronic forms we have, besides these, also *Calc. carb.*, *Drosera*, *Hepar sulph.*, *Iod.*, *Puls.*, *Sen.*, *Sep.*, *Sulph.*, *Amm. mur.*, *Ars.*, *Carb. veg.*, *China*, *Ferr.*, *Nitric acid*, *Stan.*
- b. Affecting *inflammatory morbid processes* :—*Acon.*, *Antim. tart.*, *Arn.*, *Bell.*, *Brom.*, *Bry.*, *Calc. carb.*, *Hepar sulph.*, *Iod.*, *Kali bichrom.*, *Merc.*, *Phosph.*, *Spongia*, *Sulph.*, *Ars.*, *Nitric acid* (to be compared according to the several forms).
- c. Affecting *organic morbid processes* (with textural metamorphoses) :—*Ant. tart.*, *Arn.*, *Brom.*, *Bry.*, *Calc. carb.*, *Con.*, *Hepar sulph.*, *Iod.*, *Kali bichrom.*, *Merc.*, *Phosph.*, *Sen.*, *Sep.*, *Sulph.*, *Ars.*, *Carb. veg.*, *China*, *Nitric acid*, *Stan.*
- d. Affecting *neurotic morbid processes* (of peripheral or central origin) :—*Bell.*, *Cham.*, *Con.*, *Dros.*, *Hyosc.*, *Ignat.*, *Ipec.*, *Lauroc.*, *Nux vom.*, *Op.*, *Phosph.*, *Sep.*, *Ver.*, *Ambra*, *Arsen.*, *Caut.*, *China*, *Cina*, *Cupr.*, *Lact. vir.*

In this arrangement it must be borne in mind that we do not mean that, being thus arranged, they are only to be used as here indicated. It would be diametrically opposed to the principles of homœopathy to attempt a classification in the sense of old therapeutics. The *individuality of the phenomena always stands prominent.*

In this sense, too, the following collection is to be taken,

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and which results from the specific relations, Sects. I and II.

III. Arranged according to the *specific kind of the morbid processes*, the most important drugs are—

- a, b. In *laryngeal and tracheal catarrh* :—*Acon.*, *Ant. tart.*, *Bell.*, *Brom.*, *Con.*, *Hep. sulph.*, *Ipec.*, *Iod.*, *Kali bichrom.*, *Lauroc.*, *Merc.*, *Nux vom.*, *Op.*, *Phosph.*, *Puls.*, *Ipec.*, *Spong.*, *Sulph.* *Ambra*, *Lact. vir.*, *Nitric acid*.
- c, d. In *bronchial and pulmonary catarrh* :—*Acon.*, *Antim.*, *Arn.*, *Bell.*, *Brom.*, *Bry.*, *Calc. carb.*, *Dros.*, *Dulc.*, *Hepar sulph.*, *Ipec.*, *Iod.*, *Merc.*, *Puls.*, *Sen.*, *Sep.*, *Sulph.*, *Spong.*, *Ver. Ammon. mur.*, *Ars.*, *Carb. veg.*, *China*, *Ferr.*, *Nitric acid*, *Stann.*
- e. In *influenza* we must use either the antiphlogistic remedies, viz. *Acon.*, *Bell.*, *Brom.*, *Bry.*, *Iod.*, *Merc.*, *Phosph.*, *Spong.*; or the antispasmodic—*Caust.*, *Cham.*, *Con.*, *Dros.*, *Hyoscy.*, *Ipec.*, *Op.*, *Phosph.*, *Verat.*; in the loose forms—*Antim.*, *Hep.*, *Puls.*, *Senega*; in the chronic—*Amm. mur.*, *Ars.*, *Calc. carb.*, *Carb. veg.*, *China*, *Ferr.*, *Sep.*, *Sulph.*
- f, g. In *laryngitis and tracheitis* the principal remedies are—*Acon.*, *Antim.*, *Bell.*, *Brom.*, *Bry.*, *Hepar sulph.*, *Iod.*, *Merc.*, *Phosph.*, *Spong.*
- h, i. In *bronchitis and pneumonia* :—*Acon.*, *Antim.*, *Bell.*, *Bry.*, *Hepar sulph.*, *Iod.* (*Iod. of Pot.*), *Merc.*, *Phosph.*, *Sen.*, *Sulph.*, *Ars.*, *China*.
- k. In *Croup* (*Angina membranacea*) :—*Acon.*, *Antim.*, *Brom.*, *Hepar sulph.*, *Iod.*, *Merc.*, *Phosph.*, *Spong.*
- l. In *pseudoplasms, ulcerations, disorganisations* (*carcinoma, gangrene*), alterations in the canalisation (*bronchiectasis, emphysema, strictures*), atrophy, cirrhosis, tuberculosis in the larynx, trachea, bronchi, and lungs :—*Antim.*, *Ammon. mur.*, *Arn.*, *Ars.*, *Brom.*, *Calc. carb.*, *Carb. veg.*, *China*, *Con.*, *Dros.*, *Ferr.*, *Hepar sulph.*, *Iod.*,

Kali bichrom., *Lact. vir.*, *Merc.*, *Nitric acid*, *Phosph.*, *Sen.*, *Sep.*, *Spong.*, *Sulph.*, *Stann.*; as intermediary remedies, however, we may possibly require all the others.

- m. In *simple spasmodic cough*, which may be either of peripheral or central origin:—*Bell.*, *Cham.*, *Con.*, *Dros.*, *Hyosc.*, *Ipec.*, *Ignat.*, *Lauroc.*, *Nux v.*, *Op.*, *Phosp.*, *Ver.* *Ambra*, *Caust.*, *China*, *Cup.*, *Lact. vir.*
- n. In *pertussis*:—*Bell.*, *Bry.*, *Con.*, *Dros.*, *Hepar sulph.*, *Ipec.*, *Lauroc.*, *Puls.*, *Ver.* *Ambra*, *Arsen.*, *Cina*, *Cupr.*
- o. In *narrowing of the glottis* (v. subseq. samb.):—*Brom.*, *Bell.*, *Iod.*, *Phos.*, *Spong.*
- p. In *nervous bronchial asthma*:—*Bell.*, *Cham.*, *Con.*, *Dros.*, *Hyosc.*, *Ignat.*, *Ipec.*, *Lauroc.*, *Nux v.*, *Op.*, *Phosph.*, *Sep.*, *Ver.* *Ambra*, *Arsen.*, *Lact. vir.*
- q. In *angina pectoris* or in cough caused by organic cardiac disease (depending probably upon pulmonary stasis):—*Acon.*, *Bell.*, *Bry.*, *Calc. carb.*, *Hyosc.*, *Ignat.*, *Laur.*, *Op.*, *Phosp.*, *Sulph.*, *Ver.* *Ars.*, *Carb. veg.*, *Ferr.*, *Lact. vir.*, *Nitric acid*.

Likewise in this representation we expressly beg not to be misunderstood. Within the whole scope of the *Materia Medica* there is full freedom of choice, inasmuch as the individuality of the single case is the deciding consideration, so that there is no remedy exclusively indicated for a given species of disease. We must rather, in each individual case, choose from all cough remedies according to the law of similars.

Although, in the foregoing synthetic arrangements, we have specially emphasised the totality of the characteristic phenomena of a remedy, yet these categories are only to be regarded as a *part* of the characteristics of the individual cough remedies; such a synthesis being of practical value, as it saves us much unnecessary repetition.

It is, however, by no means meant that these categories contain all that is criterional for a choice of remedies. It

is at the same time far from our intention to collate here all the symptoms relating to coughs which belong to each remedy, either after the manner of repertories or after the contents of pharmacology. Such would be an *Ilias post Homerum*, and a recapitulation from which we may very rightly preserve our experienced readers. The question here is rather one of differential diagnostics in regard to the individual drugs from which we have to choose, and for the object of a clinical journal we think we do better by laying stress on the *principal indications* and *characteristic differences*, so as to put one remedy on one side of the scales, and the other remedy on the other. In this sense the following peculiarities of each remedy are to be looked at, and, if need be, anything that may lack can be obtained on reference to the *Materia Medica*.

Aconite is the first remedy for the *incipient stage* of catarrhal conditions (such as coryza, influenza, simple acute catarrh), as also for all *inflammatory* conditions of the air passages, especially for the *febrile* forms. With it the violence of the cough can often be met and broken up, so that the cough runs but a very short course. What kind of cough it is, is so far indifferent; since under such conditions *Aconite* is equally well indicated for the dry and for the moist variety. Its influence must show itself promptly, or we must go on to more deeply penetrating remedies, viz. *Bell.*, *Bry.*, *Merc.*, *Spongia*, &c. It is also indicated in the intercurrent acute exacerbations of chronic affections with cough—Hæmoptysis.

Antimonium tartaricum.—A rattling cough sounding as if it were moist, without, however, really being so; cough with vomiting of food after meals; tracheal stertor, bronchial rhonchi. The rattling compels patient to sit up, or to vomit, gets suffocative, great dyspnœa. In threatening paralysis of the lungs. In the cough of dentition in children, in which the râles are so loud that they can be heard at a comparative distance. It disappears as soon as the children have finished their bout of coughing. In pneumonia, in complete hepatisation; advances the beginning resolution. In chronic bronchial catarrhs, emphysema, bronchiectasis,

catarrhs of the senile of wonderful efficacy. In pulmonary tuberculosis I have seen it give great ease, but it effects a more rapid softening of the tubercles, and hence accelerates its course. In croup as intermediary remedy to procure resolution and obviate paralysis often of great use, operates, too, without exciting emesis.

Arnica.—Dry cough that *shakes* the whole body, and of which the sputum is loosened with difficulty, or is *bloody*, tickling sensation in the trachea. Often left me in the lurch notwithstanding all the symptoms said to be characteristic of bloody sputum or hæmoptysis, such as taste of blood, or a sensation as if warm steam were rising (*Aconite* helped oftener, or *Ferrum sesquichlor.*, *Ergotin*). This remedy also recommended in pertussis (cough with crying [shedding tears]) seems to have but a poor future. Different perhaps where traumatic causes have operated, as in such pneumonias (*v. ante* for its different forms).

Belladonna is to the *susceptible* (sensitive) what *Aconite* is to the irritable. Vaso-motor irritations with excessive nervousity. Hence a principal remedy for the irritable, women, children, for the erethistic inflammatory kinds; not for croupous; plastic, for spastic conditions. Irritative fever. *Cough dry, barking, spasmodic in fits* (attacks), with *titillation* in the trachea or bronchi, *worse at night* and then continuous; a feeling of having swallowed dust; made *better by cold*; collaterally a sense of constriction in the throat, dysphagia; cephalic congestions, pains (stitches) in the breast. In simple catarrhs, inflammatory kinds with predominant catarrhal character (larynx, trachea on to the lungs), especially in the first stage; more in bronchitis, especially of the capillary kind, than in pneumonia; in the incipient stage of pertussis; in influenza, in cerebral, spinal, and cardiac affections, inflammations of the neighbouring parts of the air passages. In stenosis of the glottis, bronchial asthma. In chronic affections as intermediary remedy. Objectively perceptible, roseate, smooth erythema of the pharynx, uvula and palate.

Bromine, Iodine and Spongia have this in common, that they are curative of affections of the upper parts of the air

passages, that they correspond to the dry cough of catarrhal, inflammatory or organic origin. All three are profound in their action and reliable remedies, and differentiation between them is not easily put in words, this is a matter of practical acquirement, of instinctive tact. *Spongia* might be termed the most volatile and dynamic of the three; *Bromine* is more materially penetrating, powerfully and promptly curative where it is indicated; *Iodine* is the strongest, but also the least prompt and most slow. They are the principal remedies in affections of the *larynx* and of the *trachea* (catarrhs, inflammations, croups in particular, and textural changes, and in narrowing of the glottis). *Iodine* alone has also rapport with the *bronchi* and even with the *pulmonary tissue*. As to the symptoms, they are for *Bromine*, dry, croupy cough, like a *sheep's cough*, with continual grating, tickling and hoarseness. This last is a very special indication for *Bromine*. Where there are *little follicles on the mucous membrane of the posterior part of the pharynx* which easily involve the larynx and are the source of a continual irritation to cough, *Bromine* is quite specific, so also in tumefaction of the mucous membrane of the fauces and pharynx. The larynx is often tender on pressure. With *Iodine* the cough is likewise dry, croupous, with the well-known tone and short crescendo without the diminuendo of the usual cough, with titillation and a feeling of soreness in the *larynx*, barking, with grey or white, salty, sweetish sputum, sharp *whistling* and *rattling* in the chest, *sawing*, hissing breathing and tightness of the chest. The subjective feeling of painfulness and soreness often extends as far as the upper third of the sternum. Hoarseness, difficult speech, hawking up of much tough mucus. I have often seen glorious results follow the use of *Iodine* in very inveterate laryngeal catarrhs with the above symptoms; it brings amelioration in tuberculosis, it is the sheet-anchor in croup after *Spongia* and *Bromine* have failed. Still the choice among these three is not easy, either can according to circumstances be employed first.

The more plastic the exudation is, the more *Iodine* is indicated. If we wish to take the indications anatomically

then we must say *Spongia* is indicated for the *stasis*, the simple inflammation, *Bromine* for tumefaction and hypertrophy of the mucous membrane, *Iodine* for the exudation. Indeed *Spongia* whose indication is nearly coincident with that of *Iodine* (whistling, very *abrupt*, dry, sharp, barking cough, diurnal and nocturnal with pain in the larynx, and otherwise as *Iodine*), is the most important remedy at the commencement of croup which it will often break up, and really specific and extremely prompt in action in pseudo-croup or in the nearly allied inflammatory and intense catarrhal varieties, and influenza. On account of its volatile action this remedy is therefore less indicated in organic and chronic kinds of cough than its relations *Bromine* and *Iodine*. In practice among children there is no remedy more likely to make converts to homœopathy than *Spongia* on account of its so rapidly banishing the croupy tone. What these remedies are for the cervical part of the air passages, that *Bryonia* is for the thoracic part. It more frequently follows *Aconite* to help to do what *Aconite* could not do, and it completes what *Mercurius* had already triumphantly initiated, in a certain way it is therefore more potent than *Aconite* which has a more constitutional sphere of action and less local, and again less potent locally than *Mercurius*, but also more extensive in its constitutional influence than this latter. *Bryony* is above all things the *loosening* remedy, the lever of resolution in catarrhs, of resorption in inflammations, the right remedy for the second stage, for the intermediary conditions, for simple plastic, but not intensely inflammatory, *i. e.* for the croupous varieties. It is the principal remedy of *bronchial affections* (hence also of influenza); of catarrhal pneumonia, only applicable when hepatisation is beginning to break up, but with involvement of the pleura at once of incomparable value; likewise of chronic pneumonia. According to the character and seat of the bronchial affections the bryony-cough is the *concussive* kind, which comes from the *sternal region as if the chest would burst*, a little yellowish or slightly bloody, thin mucus is detached often with nausea or even vomiting, especially after food, with status gastricus, dyspnoea, *stitch in the side*,

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myalgia, sensation as if *chest and head would burst*, dryness and feeling of soreness in the cervical region and further down the air passages.

Calcarea carbonica is not a cough remedy proper. The cough symptoms are not sharply defined in the provings, and speak both of dry cough and of the rough, velvety sensation in the throat, and of expectoration of thick mucus. The principal thing is that *Calc. carb.* is the most important remedy in conditions referable to *scrofulosis* and *tuberculosis*. In this quality *Calcarea* may be used with success in *chronic* varieties of cough referable to such, especially also in ulcerative processes of the larynx, and in those cough troubles having an organic basis. The special indications may be produced from the known pathogenesis of *Calc. carb.*, which is one of the best of those of the antipsoric drugs.

Chamomilla operates simply on the *nervous* sphere, and so diametrically opposed to the materially acting *Calcarea*. The old popular antispasmodic has also proved itself efficacious here, be the origin of the cough peripherally or centrally conditioned by irritation of the nerves, especially in women and children.

Yet I must openly confess that I make but very little use of it myself because other remedies, such as *Bell.*, *Con.*, *Droser.*, *Hyosc.*, *Phosph.*, *Veratr.*, offer me more definite *points d'appui* than does *Chamomilla*. "Dry tickling cough" is not sufficiently characteristic; on the other hand, the portraiture of nervous bronchial asthma is capitally characterised by the symptom: *suffocative dyspnoea, as if the windpipe were tied together with string; constant irritation to cough.*

Conium belongs to the same sphere, but its action extends to organic metamorphosis. The cough of this drug is *periodical*, dry, excited by itching, grating, *tickling in the throat* or behind the sternum; it comes in short bouts, is especially evoked by lying down, *talking* and *laughing*. *These last two causes of the cough may be considered conclusive for the choice.** The irritation to cough lies in the

* These symptoms (cough-caused by *talking* and *laughing*.—Trancl.) are

larynx or in the bronchi. In pertussis it is indicated after *Drosera* towards the end of the nervous stage, just when talking and laughing evoke attacks whose violence and duration are already broken up. In nervous bronchial asthma it has a decided influence, and it affords amelioration in organic cases.

Drosera has a very sharply defined indication as I have on a former occasion demonstrated. The most characteristic point lies in the fact of the cough coming on in *fits* (*accès* or *quintes*, as the French have it) with *intervals of greater duration*. The cough in the intervals is of short duration, not exhausting, and thought nothing of by the patient, as compared with the torturing bouts of coughing constituting the *fits*. The attacks begin mildly, are of short duration, increase in intensity in their course; *one cough follows another uninterruptedly, compels the recumbent sufferer to sit up*: always begins with *titillation* and *fresh inspirations* that sometimes (as in pertussis) so increase in severity until the *taking breath* becomes audible, and finally, after a duration of from a few minutes to a quarter of an hour or more there follows vomiting of a little mucus (less frequently of food) or an eructation of the same, and then the fit of coughing is at an end. Herewithal the cough seems to come from a great *depth* (said even to come from the abdomen), *shaking all the muscles of the chest and body*, that are often painful for some time, and the patient feels much exhausted after the attack. The appearance of the attack is often *nocturnal, worse from lying down*. These attacks are evidently of a spastic nature, are connected with irritation of the vagus, and have their seat in the bronchi. They occur in pertussis, but also in bronchial catarrhs, after bronchitis, in old age, in connection with emphysema, or bronchiectasis. I have seen splendid results, not only in pertussis, but especially in the latter kinds. The cure results so that after a few days the intervals between the attacks get longer, the attacks shorter, milder, until they at last disappear without any perceptible local crisis. Let,

in no *Materia Medica*, and are *ex usu in morbis*, so also many others contained in this treatise. I have thoroughly tried and confirmed them.—*Author*.

however, the doses be always of a low attenuation, the second or third, every three or four hours. Whenever there are paroxysms always think first of all of *Drosera*.

Dulcamara I have never used. I did not need it, and I also consider its indications too indefinite. "Loosening cough" is all that is of any avail, and that does not suffice. We have better and more deeply-going remedies for such a cough, for instance :

Hepar sulphuris, which may be best defined by leaving it for those cases that *Acon.*, *Bry.*, *Merc.*, *Brom.*, *Iod.*, or *Spong.*, so far ameliorate that they enter the stage of resolution. In acute varieties, when the *resolution is occurring spontaneously*, and in those *moist* kinds of cough depending on an organic or catarrhal basis, *Hepar sulph.* is the most important remedy, whether the seat is located in the upper or lower air passages. In croup, in pneumonia, it is not indicated before the second stage, the stage of resolution. It is less appropriate for tuberculosis than for cheesy and chronic pneumonia. *Hepar* is likewise frequently indicated when the cough is complicated with ventricular and intestinal catarrh, or when the cough is sympathetic of inflammation of the mucous membrane of mouth, fauces or pharynx. If you want to observe a primary exacerbation caused by a homœopathic remedy even in the third trituration, then give *Hepar* too early, and you will find the cough that was already getting loose and moist, become dry again. But higher attenuations of this remedy I have never seen of any good.

Hoarseness, grating, irritation in the larynx or in the lower part of the fauces, mucous râles, are important indications for this remedy, which should be characterised as specific for the *plasticity* of the different processes.

Hyoscyamus, in indications allied to *Bell.*, differing from it in its purely *anti-nervous* nature, without the relation to the vaso-motor element. *Nocturnal exacerbation of a dry, spasmodic, tickling cough* from the trachea, especially worse on lying down, is the most important indication. I confess that I have often been deceived in the result, and have had

better success with *Phosph.* and other drugs ; hence I use it but unwillingly.

Equally seldom is my use of *Ignatia*. It is appropriate only in coughs of central origin, such as in spinal irritation (hysteria) or in the neuro-catarrhal affections of the larynx and trachea of the hysterical. Perhaps, also, in bronchial asthma, or angina pectoris of such patients. The cough is *ticking, dry, downy*, or, as if from *sulphur vapour*, constriction in the throat, globus hystericus and other such symptoms.

Ipecacuanha, spasmodic cough or catarrhal *ticking cough*, also *suffocative cough* with *dyspnœa*, nausea, *emetic action without emesis*, especially at the termination of an attack, or with the throwing up (spitting up) of sparse, albuminoid, *disgusting* mucus, also when there is *mucous rattling* and *vomiting of food* (but in a less degree than that of *Tart. emet.*). We must attach the greatest importance to the *nausea* in the cough of *Ipec.*, and the absence of inflammatory irritation, and also to its inclination to end in resolution. Catarrh of the stomach, bronchial asthma, are important indications, more in bronchial and laryngeal affections. In pertussis towards the end. Has special relations to the vagus. Peculiarly indicated in women and children.

Iodine vide *Bromine* (ante).

Kali bichromicum, with its dry, short, continual *ticking cough* and pain in the larynx, as if from an ulcer, has great affinity to *Brom.*, *Spongia*. *Iod.* is more appropriate, however, for the less acute, furtive cases. *Inflammatory redness of the pharynx and fauces* with a smooth and papular surface is characteristic of it. The remedy deserves greater attention than is at present paid to it.

Laurocerasus, tussiculation, continual irritation and tickling, short, little cough, lightness of breathing, is only appropriated for the nervous kinds, most particularly for the *irritative cough depending on cardiac affections*. Not long ago I observed a most striking action in a case of stenosis of the mitral valves. Patient had coughed continuously for several nights as soon as he lay down. One dose of *Lauroc.* 1— he slept and could lie, and did not cough for a whole week.

How the allopaths, and more still their patients, are to be pitied, that their school should lack a knowledge of *Mercurius* (sol.) as a cough remedy. Where is there a more certain, a more specifically-acting remedy for the appropriate kinds of cough of a catarrhal, inflammatory, organic nature, running from the fauces through the trachea and down to the finest bronchi, decisive in acute affections, ameliorating in the chronic, slime-loosening, resolvent, restorative? Where *roughness, burning, feeling of soreness* from the fauces down to the sternum, hoarseness of voice, dry cough, raw, concussive, exhaustive, naturally exacerbated; sputum ropy, watery, spittle-like, nasty, bloody, catarrhal headache, coryza, diarrhoea, fever, non-ameliorating night-sweats—here is the real province of *Mercurius*. Its place is somewhere after *Aconitum*, before *Bry.*, or *Puls.*, or *Hepar.*, or *Tart, emet.*; also ushering in the turning point, critically interfering, so that the last-mentioned may finish the affair. *Merc.* is the sovereign remedy of bronchitis and of the inflammatory bronchial catarrhs.

Nux vomica, intensively and extensively important polychrest, has nevertheless but a limited sphere of action in coughs. Only when the cough is a collateral phenomenon of a general catarrhal condition, and where all the other signa morbi call for *Nux*, and particularly when in these conditions the *faucial* and *pharyngeal* mucous membrane is principally affected. Hence the cough of *Nux* is *grating, scraping*, rough, with irritation in the *throat*, or above the *sternum*, resolving heavy tough mucus, waking up from the morning sleep, or brought on again, or exacerbated by eating, or vomiting. Inveterate coryza, influenza, more particularly simple *catarrhs*, these conditions constitute the sphere of *Nux*.

Opium.—I wonder how it happens that the tussal panacea of the allopaths, *Opium*, so seldom finds appropriate employment in our school? In this our principle alone decides. According to the simile *Opium* appears as curative only in *spasmodic kinds of cough with continual, dry tickling cough that gives no peace night or day*. Except this in all

those cases where the old school employ it, such as in the cough of the phthisical where it is an extremely blessed remedy, as keeping off the nocturnal attacks, it only acts by reason of its narcotic principles, palliatively; for this, however, strong allopathic doses are necessary.

Phosphorus.—The indication of *Phosph.* in *nervous* coughs runs almost the same, it can be compared with *Bell.* and with *Drosera*. With *Opium* we might almost say that the titillation is the principal thing, with *Phosphorus* the cough is the most harassing. The irritation of *Phosph.* is not so continual as that of *Opium*. Also with *Bell.* the cough is milder, and not so deeply lying. The similarity to *Drosera* lies in this that both kinds of cough occur in *bouts* and intervals. The cough of *Phosph.* however, is *abrupt, rough, sharp, dry, between each tussal effort there is a short interval*, which is absent in the cough of *Drosera* where the whole lot come one after another; the *cough does not begin with a deep inspiration*, but the *expiration* is predominant; the *recumbent* patient can cough on without being compelled to sit up, and the attack does not always end in expectoration, or vomiting of mucus, but ceases gradually.

So also the cough of *Phosph.* does not seem to come up from the very bottom of the belly. The patients accurately state that it is either the larynx, or bronchi and lungs. That *Phosph.* is a principal cough remedy in nervous kinds, such as these, is quite positive, hence its brilliant action in narrowing of the glottis, in the cough of bronchial asthma, in angina pectoris (cardiac cough). But also in the catarrhal inflammatory organic variety extending throughout the entire air-passages, *Phosph.* shows its favorable action in an extent and importance that will warrant a comparison with those of any other cough remedies. We find *Phosph.* everywhere from laryngeal, tracheal, bronchial, and pulmonary catarrh on to inflammation, even to the most croupous of all these parts and to the pseudo-plasms and disorganisations of tissue. The painfulness of the larynx on pressure, the different kinds of pain, *as if from a sore part, stitch, burning* in all

these parts, the sputum of frothy, sticky, *purulent*, salty, sweet, *brown*, rusty, *bloody* mucus; the cough is excited by talking, laughing, eating, moving about, hoarseness going on to aphonia, *dyspnœa*, or *shortness of breath*, the great weakness and prostration, the fever, sufficiently testify to the profound nature of this gem of a drug that even in emphysema and tuberculosis still shows its power.

In an attack of cough occurring in a child with measles, where a twelve-hour, continuous irritative cough had at last brought up froth and blood, I obtained help from *Phosph.* almost instantaneously and permanently after the administration of all other remedies in vain. In pneumonia it still continues the principal remedy, and in croup it prevents paralysis and narcosis from carbonised blood.

Pulsatilla has a remarkable similarity to *Hepar sulphuris*, which is also evidenced in the fact that it helps even in its third attenuation. When *Pulsatilla* had been given too soon, it produces exacerbation and causes the beginning moistness to disappear and the cough gets as dry as ever. *Pulsatilla*, like *Hepar*, is only appropriate in the loosening cough with expectoration of much mucus, particularly yellowish, whitish, salty, and at the end of the catarrh, and in chronic catarrhs. *Pulsatilla* does not dip so deeply into the metamorphoses as does *Hepar*, and is hence only alleviating in chronic organic cases. Where there are mucous râles, where asthmatic difficulties arise from the accumulation of mucus (emphysema), catarrhal irritation in the throat, better out of doors, worse in the evening and at night, there *Pulsatilla* is especially indicated. In that variety in which there is a diurnal moist cough, and at night on lying down a dry tickly cough *Puls.* is quite specific.

Senega.—This remedy that of yore was so celebrated in the old school, is alas! with us too little regarded. And yet it deserves attention on account of its powerfully resolvent action, especially with *tough mucus* that is *difficultly loosened*, in *torpid* conditions of the laryngeal and bronchial mucus membrane occurring in the aged, in the lax and phlegmatic, and in chronic catarrhal affections, in emphysema, in asthma senile, in bronchiectasis and in

tuberculosis. The remains of inflammatory catarrhs, with inveterately chronic cough, the insufficiently resolving hepatisations of old pneumonias, as also the chronic and cheesy, find in *Senega* a most powerful remedy.

Sepia.—The learned, or rather practitioners, cannot agree about this drug. This results from the indefiniteness of the proving. How often must clinical experiment step in and decide, for the proving of *Sepia* has both moist and dry cough, nay even much expectoration of mucus, white, salty tasting, even purulent sputum.

In the latter cases I have not seen *Sepia* do much. I find it, however, effective in that *kind of short dry cough* so characteristic of tuberculosis. There we have *titillation* in the larynx, sometimes a thick, deep voice without *metallic timbre*, a *sensation of dryness* in the chest and in the larynx, dry, screeching, hollow, deep cough, that is better on lying down. There is sometimes a little mucus got up, but with difficulty, and it is tough, slimy or albuminoid. *Sepia* is, next to *Calcarea*, my chief remedy in tuberculosis. Then I use it successfully in chronic catarrhs, especially when they are complicated with chronic gastric catarrh, or when venous stasis is co-existent. Speaking generally *Sepia* has a rather limited sphere of action, and its choice requires some consideration.

Sulphur is also indicated in the chronic varieties, but it is of more extensive application, often less from its specific relations to the cough than from its influence on the vasomotor nerves and on the metamorphoses, and of its power of awakening a reaction. Hence *Sulphur* is so potent in the most heterogeneous morbid processes when the course is slow and will not come to activity, this both in acute cases and in catarrhs and inflammation (*Sulph.*, resolves hepatisations effectively !), or in organic diseases of the air-passages, and of the heart. As we have especially in the provers' symptoms all the different kinds of cough represented, dry as well as moist, also the different kinds of sputum, so we must keep ourselves more to the nature and course of the morbid process but, more especially, to the *constitutional* indications and the deciding collateral circumstances. Whenever

there is a *dyscratic* element in question, think early of *Sulphur*.

Veratrum, just as it has a great similarity with the gastric and intestinal affections of *Ipec.*, so also in the cough affection. For the symptoms we may almost refer to the latter, only that instead of the tickly cough there is also an *impulsive* cough with *Veratrum*, that the titillation of *Verat.*, lies *lower down* in the air-passages, that there is a sense of constriction in the throat, that the *anxiety*, the *nausea*, the *vomiting of food and mucus* after the cough are stronger in *Veratrum*, that the attacks simulate more those of *Drosera* and *Belladonna* as having longer intervals. The characteristic difference between these remedies consists in this, that *Veratrum* has more of the *spastic*, and *Ipecacuanha*, more of the *catarrhal* element; hence also the great and often determining influence of *Veratrum* in influenza, in simple spasmodic cough, in pertussis next to *Belladonna*, *Drosera*, *Conium*, *Cuprum*, in nervous bronchial asthma, in narrowing of the glottis and in angina pectoris.

With this remedy closes the series of the *principal* cough remedies which this treatise was intended to elucidate.

HEIDEN AND ITS WHEY.

By VERNON BELL, M.D.

FOR the last ten or twelve years it has been my custom to spend an annual holiday of two months or so in visiting continental "health-resorts," for the purpose of ascertaining by personal inspection the fitness of these places for English invalids, and for my own relaxation after the usual wear of London life. This custom has not much diminished my tension, it is true, but it has been fruitful in providing me with novelty, in correcting impressions derived from books, and in rendering inexact knowledge exact. For many years I had felt the necessity of ascertaining, by personal survey something, at least, of the general aspect of a locality

and its hotel and lodging capabilities before advising patients to go several hundred miles away in quest of something they might probably obtain nearer home, with less expenditure of strength and money. After one or two of these continental journeys I saw, more strongly than ever, how much harm is often done by advising people to go to inappropriate places : and, for my part, resolved never again to recommend localities I had not visited. I believe I have been somewhat instrumental in lessening the indiscriminate invasion of districts, which, though excellent in themselves within certain limits, are often eventually discredited through the injury done to invalids, who should really never have been sent to them.

The annual rush to the upper Engadine affords an illustration. A year or two ago the Bernese Alps were swarming with visitors in search of health or pleasure ; now it is the Engadine and Rhætian Alps ; soon it will be some, at present unheard of Kurorte, in the Tyrolese mountains, and as railways stretch eastwards up and down the lovely valleys of Carinthia and Styria, where, as yet, the traveller may wander for weeks without encountering a native of England or America, there will be celebrated spas and mountain stations that will dim the hygeian lustre of eastern Switzerland. But at present the upper Engadine bears the palm. During my short stay there in 1872 I made the acquaintance of a gentleman who had been obliged to spend several weeks at Samaden and St. Moritz, who assured me he had not been benefited by his sojourn, and that he had known several striking examples of invalids, who had become rapidly worse soon after their arrival. One especially, a London publisher, suffered dreadfully from excitement, loss of appetite, and sleeplessness, during the few days he remained ; though he soon recovered on going to Ragatz, 4000 feet lower down. But as it is not my purpose, at present, to weigh the advantages and disadvantages of the Engadine, I pass to the object of these brief observations—Heiden.

Heiden is a Swiss village, or small town, of 3000 inhabitants, in the north of the canton of Appenzell. It stands on a

height overlooking the lake of Constance, two or three miles from its south-east shore. It is not visited by many English, but is better known to Americans, numbers of whom reside in Switzerland and the adjacent countries. The few English who pass through it are usually pedestrians, who—sound in wind and limb—cannot be expected to pay much heed to its climatic conditions. But I met there several Americans who were all pleased, and some of whom expressed themselves very warmly about the place as specially suited for incipient consumption of the lungs. It is not difficult of access from London. Anyone in average health might reach it with perfect comfort by spending two nights on the road; but it would be well for the invalid before starting to consult his own doctor respecting the clothing necessary, as he would be best able to judge of the peculiar requirements of the individual constitution. Assuming all this to be settled, and the starting point London, still the number of resting places must depend upon the strength and inclination in each special case. The patient, if weak, should go quietly down to Folkestone or Dover and stay a little at the "Pavilion," Folkestone, or the "Lord Warden," Dover. His friends would do well to secure a berth on deck, and amidships, for the transit to Boulogne or Calais. Should he fear sea-sickness he had better take a good meal early in the day—be on board and lie down on his right side with his head to the bow before the vessel starts. It is important that he should keep comfortably warm, and especially not allow his feet to grow at all cold. His mind should be resolutely turned away from the possibility of becoming sea-sick. The kinds of sea-sickness vary as much as the faces of people, therefore no hard and fast rules can be laid down. But many have derived benefit from the application of an ice-bag to the spine; others from having taken two pilules of *Nux vomica*, dry on the tongue, every morning for three days, before going on board, and these have told me they were "quite settled in their stomachs" by having a seidlitz powder as soon as possible after landing. Others have been saved from sea-sickness by taking "chloroform pearls," while *Creosote*, *Capsicum*, *Petroleum*, "brandy and

seda," with divers agents of a more complex character, have found their advocates and successes. But in spite of all remedies, sea-sickness will have to be endured until the happy era when ships, constructed according to Bessemer's ingenious principle, shall have decks coincident with the plane of the horizon in all weathers, and when "pitching and rolling," if not abolished, shall be reduced to a minimum.* The distance between Folkestone or Dover and Paris should be accomplished if possible in one day, but if the patient should feel this too fatiguing, he should rest at Amiens rather than at Calais or Boulogne. Hôtel du Rhin at Amiens is the best. An invalid, able to take a short walk or drive, may visit the beautiful cathedral before resuming his journey. This is the only thing worth seeing. The patient, or his friends, should be provided with a small compass. As each day's travelling is determined, the little instrument and a good map should be consulted, and the sun's position, with relation to the route, as far as possible, ascertained. For example:—on the line running north to south from Calais or Boulogne to Paris, the sun will strike the left side of the train till noon; after then, it will gradually shift to the right. In spite of blinds, which are usually better arranged on continental railways than on ours, I know few things more sickening to a delicate person than the sunny side of a railway carriage.

Then as to food. A heavy meal should rarely be taken immediately before travelling. The patient, if not to start till the afternoon, may eat as hearty a breakfast as he likes, and take only some slight refreshment about one to two hours before the train is to leave. A full meal often induces thirst, heaviness, and a sense of heat and oppression, to relieve which some stimulant is frequently resorted to; but, from my observation, I am persuaded there are few things more noxious to the feeble while travelling, than alcohol in

* In Bessemer's large working model at Denmark Hill the saloon is continuously kept with its floor in a horizontal plane, notwithstanding that the ship which supports it rolls to an angle of twenty-eight degrees some eight or ten times per minute; and Mr. Bessemer himself says his "decks will be retained in a horizontal plane in all weathers."

any form. If thirsty the patient may take iced water, soda or seltzer water, hot tea, or grapes when they can be procured. After he has reached his hotel he should immediately have ten to fifteen drops of homœopathic *Tincture of Arnica* in a wineglassful of water, and this dose should be repeated every morning and evening while he is moving from place to place. It neutralises that feeling of general bruise of which weak people complain so much after continuous jolting. Then he should eat a good meal and lie down or go to bed, placing himself on his right side.

It is never very prudent to recommend hotels, for besides the frequent change of proprietors, different travellers have such varied tastes and requirements that one person can rarely judge for another. I have been in many hotels in Paris, and, all things considered, prefer the "Mirabeau," in the Rue de la Paix, to any other. It is airy, clean, quiet, and central. Should the invalid be in Paris for the first time he had better rest for a day or two, and resist every temptation to sight-seeing, especially should his pulse and temperature be higher than natural. Some invalids who are fond of the sea and picturesque scenery may prefer to go by Dieppe or Havre, but I cannot give any information about these routes, as I have not travelled by either. The fact, however, that sea-air increases both temperature and pulse when they are already rather too high, will gravely weigh with the invalid's own doctor when advising as to the course to be pursued.

Heiden may be reached by three main routes from Paris. The one by Dijon, Neuchâtel, Zürich, and Frauenfeld, is the most picturesque, but not free from delays. That by Chalons, Nancy, and Strasburg, is almost featureless, and is at least 100 miles longer than the line *vid* Troyes, Chaumont, and Bâle, which, though equally unattractive, is direct and well managed. The best stopping place on the way is Troyes, about 100 miles from Paris. The hotels of this place are said to have "fallen off" since the German invasion. The town, however, is old and curious, its cathedral splendid, and its nightcaps unrivalled. In the manufacture of "hosiery" Troyes is the Leicester of France.

The inns at Chaumont and Langres are not good, therefore the first resting place should be Troyes—Hôtel du Commerce—and if the invalid is able to accomplish over 200 miles at once he may reach Bâle the next day. But if obliged to stay on the road before reaching Bâle, Langres would be a better halting place than Chaumont. The friends of the invalid should bear in mind that a “*coupé lit*” can be obtained on almost all the trunk lines in France when sufficient notice is given. On arriving at Bâle he should not go down into the town. The Hôtel Euler and the Schweizerhof are both on elevated ground close to the central station. Either of these hotels is quieter and more healthy than the “Three Kings,” or any other on the Rhine, in the centre of the town. The best way from Bâle to Heiden is by Schaffhausen and Constance to Rheineck.

On starting from the central station for Constance, travellers are obliged to drive through the town and across the river to the Baden station, a distance of about a mile and a half, and they had better not forget to allow half an hour for the Swiss clocks being in advance of French railway time. At Bâle a seat should be secured for the patient on the right of the carriage with his face to the engine. By this means he can control the window, and may be cheered by the pleasing scenery of the Rhine for a considerable portion of the way. The tickets must be taken through to Constance, a journey of five hours, unless he should be disposed to have a peep at the falls of the Rhine, in which case he must stop at Neuhausen. The Hôtel Bellevue and the Schweizerhof stand close to the station on the other side of the road. He should select rooms overlooking the river, and I advise him not to prolong his stay in the months of July, August, or September, when both hostleries are often overcrowded. Schaffhausen is a dull mediæval looking town, and not desirable as a resting place.

Constance is better, and the Hôtel Hecht, opposite the lake, is comfortable. This celebrated old city, though standing on the Swiss side of the lake, is under German jurisdiction. The invalid may employ an hour in visiting the cathedral, which is worth seeing, even more from its historical associations

than for its merits as a minster. In the nave, about a dozen yards from the principal entrance, is the flagstone on which Huss the illustrious reformer stood to receive the sentence of the "Great Council," which doomed him to be burnt alive—the famous convocation summoned to rectify "by Divine right," the abuses of the Church!

The spot where Huss stood is said to be always dry, while the pavement around is damp. This singular coincidence may be accounted for by the fact, that Nature has let into the slab a bit of hard "conglomerate," which cannot absorb the moisture like the surrounding freestone, and that this was just the very part on which Huss happened to be placed. A little way out of the town, a short distance off the road to Zürich, in the midst of market gardens, a huge boulder, surrounded by railing, marks the spot where his judicial murder was perpetrated and where, one year afterwards, Jerome of Prague, a brother in faith and tribulation, was also martyred by the same unrighteous judges. The stone records, on one side—

"Johannes Hus
+ 6 (14) Juli 1415."

on the other—

"Hieronymus von Prag
+ 30 Mai (7 Juni) 1416."

Their ashes were scattered on the Rhine, and their doctrines are dispersed throughout the world.

The distance from Constance to Rheineck is short, but there is sometimes a little delay at Romanshorn and Rorschach. The invalid should not venture on the lake on his way to Rheineck. When he has gained strength, he can always spend a day sailing across, or up and down, as he may feel disposed. On arriving at the village of Rheineck, carriages will be found at the station by which to ascend the hill to Heiden. The drive up occupies about an hour and is exquisite all the way. At Heiden the "Freihof" and "Schweizerhof," though not equal to the best hotels in Switzerland, are clean and comfortable. The situation of the Freihof is not to be compared with that of the

Schweizerhof for an extended prospect of lake and mountain, and if the invalid can obtain good rooms in the *dépendance* of the Schweizerhof, the view will be a constant delight to him. Both these hotels and their dependencies belong, I was told, to the same proprietor, and the cost of lodging and living in them *en pension*, is about half a guinea a day each, exclusive of wine and attendance. There are other hotels and boarding-houses of less pretension, and lodgings are plentiful. The boarding-house called "Zur Frohen Aussicht"—the Cheerful Prospect—has a fair reputation. Should the patient prefer lodgings, arrangements can usually be made about the meals, except dinner, which all are expected to take at the hotels or have sent in. Though German is the language of the canton, French is spoken a good deal, especially at the best hotels.

After the patient has rested for a day or two, he will probably be ready to commence taking the whey, but I recommend him to get first the advice of a local doctor of good professional reputation and experience. During the season I was there, Dr. Zutz, of Rheineck, could be consulted at Heiden every day, and there are other well-known medical men on the spot. If possible the patient should take a history and statement of his case from his own doctor at home.

It is interesting, especially to those who have suffered from affections of the eyes, to know that the celebrated oculist of Berlin, the late Dr. Graefe, esteemed the situation and climate of Heiden so highly that he spent a portion of every summer there and induced many of his patients to follow him. He performed some of his most difficult operations at Heiden, because he considered that its air conduced to a larger proportion of successful results than the air of any other locality. The renowned Dr. Niemeyer, of Tübingen, and Professors Veit, Rühle and Kussmaul, have long been in the habit of sending patients thither every year.

Heiden, 2642 feet above the sea, and about 1300 above the level of lake Constance, is not sufficiently elevated to suffer from such rough and sudden alternations of temperature as are experienced in the valley of the upper Engadine. The summer heat is tempered by breezes from the neigh-

bouring lake and from the distant glaciers, which, though too far off to communicate any chilling rawness to the atmosphere yet commingle their currents, and cause a refreshing coolness to the night air when the landward movement from the lake dies away. Therefore the heat in July and August is never stifling and oppressive, as in many Swiss valleys, nor is the cold at night so severe as at most other Alpine stations. Fogs are rare even in autumn, and when any do arise they float low down on the surface of the lake, or whirl round the summit of Sentis which overlooks Gais, a less frequented "whey-cure." The hygrometric condition of Heiden is still further beneficially influenced by the state of the neighbouring woods, for Swiss forests, unlike those of Italy, are well managed. No trees can be cut down till at a certain age, when others are planted to replace them, so that the forests are always dense enough to retain moisture. By this means excessive floods are obviated in winter and spring, and dryness and heat are rendered more equable in summer.

Goître, that hideous outcome of some of the hot, ill-drained, ill-ventilated valleys of Switzerland, is seldom seen at Heiden, and when an isolated instance presents itself, it is usually imported. Certainly it is not an endemic deformity. I did not meet with a single case. This immunity may be ascribed to the comparative affluence of the people and their cleanly airy abodes; to the nature of the soil and the geological conformation of the district, which is an elevated undulating plateau. The carbonic acid which exhales from the rank vegetation in the warm moist valleys, and by its great density accumulates at the bottom, has neither soil nor lurking place in breezy, basking Heiden, where the ground is tilled, and the inhabitants are industrious and well fed. Such unsightly hypertrophies find their congenial home in the foul and sunless hovels of the peasantry of the valleys, who, weakened through successive generations by unwholesome food and the abnormal excess of this deleterious gas,* exhibit the singular physiological diversities of an enormous thyroid, or an idiotic brain.

* Carbonic acid is always present in the atmosphere, of which it forms about 1/100 by weight.

The canton of Appenzell is justly esteemed for an abundance of excellent whey, and of Heiden especially, it would be a truism to say, that the whey and milk are genuine, for as cheese and not milk is the great commercial commodity of the district, adulteration is unknown. The milk does not run any risk of being spoiled by carriage from long distances, for it is produced in abundance on all the neighbouring farms. An analyst might send round for samples to estimate their qualities, but he would be unable to detect any suspicious variations in the specific gravities, the amount of cream, or of other ingredients which are recognised as tests of the purity of milk. The greater part of the whey used at Heiden is obtained from goats. The animals are milked in the evening, and towards midnight the process of cheese-making generally commences. The milk is thrown into a large pot over a slow fire, the heat of which, with the aid of rennet, coagulates and separates the casein. When the whole of the curd has been removed, the hot whey is poured into small tubs or barrels and carried to the places where it is to be drunk. Its colour, a yellowish green, is not inviting, and to many its warm sweetish taste is far from agreeable. But their repugnance is soon overcome, and by degrees they learn to take the morning draughts with pleasure. The smell is fragrant and, when the herdsmen have used a fir branch to aid the curdling process, the taste is balsamic and pleasant.

The sensible habit of early rising is kept up at Heiden, and between the hours of six and eight, invalids and valetudinarians resort to the Trinkhalle, to sip their whey and mineral water. Mineral waters are much used at Heiden as medicines, and for the purpose of obviating some effects produced by the whey. Patients who are too weak or unwilling to rise so early, can always have the whey brought to their lodging. Indeed, many, though living at a hotel, prefer to purvey it for themselves, instead of inconsiderately allowing the hotel keeper's ingenuity to be taxed at the casting up of his weekly bills!

In order to reap the utmost benefit from drinking the whey, the invalid should walk up and down out of

doors, and listen to the music, or chat with pleasant companions. In bad weather the Trinkhalle serves as a promenade. The patient should begin with half a glass for the first day and take it in sips. He should always drink the whey slowly, and allow about fifteen minutes to elapse between each dose, until conscious of a sense of repletion, or until diarrhoea sets in. When diarrhoea supervenes upon whey drinking, it begins in most instances after the third or fourth glass, and terminates in an hour or so after the last draught. Should it continue longer than this, the quantity of whey must be diminished and flour porridge eaten for breakfast, to counteract the undue laxative effect; should it, however, still keep on, a local medical man ought to be consulted at once. The diarrhoea may be partly owing to an excess of fluid absorbed and taken into the blood, but is probably still more due to the physiological action of the *saccharum lactis* and salts contained in the whey. Yet whey does not cause diarrhoea in all who drink it. In some it induces constipation. Could the history and condition of those in whom it causes constipation be accurately known, I suspect some exalted function or even slight structural change of the biliary and gastro-intestinal apparatus would be found to exist and, therefore, that the astringent effect was in reality curative. I imagine the true explanation of the diversity of results to be, that whey purges those in whom the digestive system is sound, while it binds those whose bowels deviate from the normal standard. At all events this explanation is consistent with the rational therapeutism of similars and, accordingly, instead of withholding whey in lientery and even in some cases of chronic dysentery, I should be disposed to administer it cautiously in small quantities, regulated by the condition of the viscera, and the general symptoms. Whey was known to doctors in the time of Hippocrates as a "purgative, alterative, and slight nutritive;" and Pliny remarks, that "goats' milk curdled and deprived of its casein, acts as a sedative and nutritive." Swiss practitioners who have largely used the "Molken-Kur," have verified these ancient experiences amongst their own *clientèle*, and affirm that no effects are

more common among whey-drinkers than dyspepsia, and intestinal catarrh.

Persons of nervous and gloomy temperament are said to exhibit the renewing effects of Heiden and its whey in the greatest degree. The extremes of sensibility and melancholy are diminished, in fact, soon ousted by self-possession and cheerfulness. Making due allowance for the local advocacy of places of this description, it is easy to understand that a simple country life, with the use of an agent capable of producing a wholesomely rapid metamorphosis of tissue, detaching and removing obstructions, and generally ameliorating the functions, should earn and maintain for Heiden a prosperous reputation. The habits and relationships of the people are simple. They breakfast between eight and nine o'clock, and the different sets of invalids and visitors organise walks, rides, and drives to the various objects of interest in the neighbourhood. Those fond of botany would find numerous specimens of flowers and plants to please them.

Perhaps the fragrant black honeysuckle, the *Pimpinella saxifraga*—a species of the great Umbelliferae order, and the showy *Gentiana aestiva*, are among the most observable; but many other members of the Gentian family find favorite habitats in Switzerland, at elevations of three to five thousand feet, where they grow abundantly.

The chapel of St. Anthony and the Kaien mountain are inviting excursions, and command splendid views of the Rhine valley, the lake and the Austrian Vorarlberg. The commonwealth of Appenzell does not include many loungers, so that balls, gambling and other pursuits of luxurious idle life do not tempt patients to stay out late. The inhabitants of Heiden work at their various occupations, in muslin, cotton, silk, &c., and by nine or ten o'clock have retired to bed. Strangers, however, who care to study the social, religious, and political aspects of a pure democracy, will find abundance to interest them amongst the Appenzellers. The "outer-clearings," as it is called, of which Heiden forms a part, is inhabited by Protestants who, rejectors of traditional ways and costumes, are enterprising and comfortable. The "inner-clearings"—Inner Khoden

—occupied by Roman Catholics, consists of pasture land. Its inhabitants are courteous and primitive, but prone to superstitious rites and practices; and in their rude agriculture far behind the spirit of the age. Both Romanists and Protestants, however, excel in popular singing, wrestling, and rifle matches, and vie with one another, each in their own way seeking to distinguish themselves.

Thirty-five years ago, Heiden, excepting one house, was destroyed by fire, and now the streets are said to be built on a regular plan. My architectural perception, however, was obviously at fault, for I could only discover a large number of good and comfortable houses, scattered up and down on undulating pasture land, at such distances from each other as to make their destruction, by continuous fire, impossible. The houses are exquisitely clean, and the open spaces between them prevent any closeness even in the most sultry day. The summer air is dry and vivifying and, in consequence of the elevated position of the district, pure and considerably rarefied. Therefore patients, with certain disorders of the respiratory system, are there placed under the most favorable circumstances to aid the natural bias of the economy towards health; especially is this the case in brouchial and laryngeal catarrhs, chronic bronchitis, and chronic inflammations with a tendency to end in cheesy infiltration. The therapeutic value of whey, in this class of cases or any other, can only be accurately determined by a knowledge of its physiological effects. But, in the almost entire absence of this, it is not unfair to venture upon a single speculative remark; or to claim that the action of some of its constituents, in pulmonary disorders, is in obedience to the law of similars.

I think I may assume from that which has been surmised of the physiological effects of the chlorides of potassium and some phosphates, the principal of which in whey is the phosphate of potash, that their interactions mainly involve the mucous and parenchymatous lung-tissue. I believe all students of drug action agree that the potassium and sodium families occasion specific coughs—each member producing its own laryngeal, tracheal, or bronchial irritation. It may be

difficult to explain how these agents modify the respiratory mucous surface, so as to induce these effects in a healthy organism, but there can be no doubt of the fact that they do. Now this very modification of the respiratory mucous surface by potassium and sodium becomes a curative process when effected in an unhealthy organism.

This curative result may arise either from a specific action on the blood itself, or through the blood, upon the local lesion. If so, the action must be effected in accordance with the general law of similars, and by very moderate quantities, for a pint of whey contains only about twenty-five grains of phosphates, mainly phosphate of potash, three to four grains of chloride of sodium, and fourteen grains of chloride of potassium, with rather more than 400 grains of sugar of milk, and some cheesy matter, fat, and water; and whether the whey be of goats, ewes or cows, the amounts of salts and extractive materials vary only from five to ten in every 1000 parts of whey. Should it be objected that whey is an animal solution of mineral matters, probably chemically united with other constituents, and that it is difficult to assign the respective portion of sustaining and healing power which each constituent may individually possess, I concur with the remark, and submit, that it applies not only to whey but also to all foods and drugs if resolved into their original elements. When the water, casein, butter, sugar and salts, in proportional combination, are subjected to the chemico-vital operations of the organism, it is impossible to ascertain with absolute certainty how much they act as carbonaceous foods and how much as medicines, yet the chlorides and phosphates can only be regarded as purely medicinal agents, and it is to them, as it seems to me, that the medicinal value possessed by whey is to be attributed. Milk-sugar has been used as an article of diet in acute tuberculosis and extreme irritability of the stomach from great loss of blood, but whether its utility is due to being "non-nitrogenous," as some allege, or to being resolved into carbon, hydrogen and oxygen—its elementary components, I am at a loss to know. In the rectification of such an intricate machine as the human system, it must

always be difficult to determine the proportional efficiency of the therapeutic forces of a complex beverage like whey, and particularly when it is taken at an Alpestrine station of nearly 3000 feet. The factors of altitude, with diminished pressure, mean summer temperature, humidity, winds, daily thermometrical fluctuation, dryness, and kind of soil and water must be weighed, before a fixed value can be assigned to any element which may aid in facilitating a cure. It is enough to say here, that whatever power may be possessed by whey is greatly aided by the natural advantages of a tranquil hill-station, so delightfully situated as Heiden. But beyond the general observations already made about its climatic elevation and position, I can only enumerate, in addition to those previously mentioned, two or three other classes of disorders most likely to derive benefit from Heiden, as well as a few of those which would probably be aggravated or at all events not mitigated by being sent thither.

Heiden is not well adapted for that phase of pulmonary consumption in which true tubercle exists in considerable quantity, where the evening pulse exceeds 100, and the thermometer indicates a relative rise in the temperature. I consider Heiden also contra-indicated where the muscular structure of the heart is weak, dilated, hypertrophied, fatty or fibroid; where the cardiac valves are incompetent or degenerated; in cardiac and aortic aneurism; and, where there is syncope, palpitation and irregular or slow circulation. I should hesitate to send patients to Heiden who suffer from hæmoptysis or asthma if I found the dyspnœa associated with emphysema. I am bound to say, however, that other doctors have recorded satisfactory results, from sending patients with the erethic excitable form of consumption, even when inflammation and hæmorrhage have constantly recurred, to altitudes higher than Heiden. Still I must confess for my part, that should I find even the smallest quantity of true tubercle accompanied by a good deal of vascular irritation, I should advise a patient not to go higher than between 2000 and 3000 feet, and even then, I should note his progress with considerable anxiety. In tuberculosis of either a

torpid or active character, the combined use of whey and Alpine climate must be considerably prolonged before the nutrition of the system can be beneficially affected. At the commencement of tuberculosis, when there is already evidence of it in the apices, or even when there is only a predisposition towards consumption, it would certainly be wiser and safer to begin with a moderate elevation like Heiden, before venturing upon greater heights such as Davos or the upper Engadine. Sudden transitions from the plains to high mountain valleys are always hazardous where there is excitement from organic disease. On the other hand, where there is excitement from debility, it is often rapidly allayed, and from the first hour, the valetudinarian is sensible of returning strength.

The maladies connected with respiration and diminished activity of the organism, which are most often lessened by a residence at Heiden, are bronchial catarrh, chronic bronchitis and, perhaps, chronic pneumonic phthisis and chronic pleurisy. Cough, expectoration, dyspnoea and perspirations diminish or cease entirely, provided they are not connected with deeper, though perhaps unsuspected, organic lesions. Convalescents and the young who have vegetated in towns soon feel the exhilarating effect of drinking nutritious whey in a mountain district, and children sometimes develop with remarkable rapidity under its use. To them especially, where there is a tendency to low gastric remittent, whey is a light nourishment, which aids nutrition without occasioning irritation. In neuralgia, nervous irritability, and predispositions to tuberculous, scrofulous, and hæmorrhoidal dyscrasies, it is exceedingly useful. Also in skin diseases of a squamous character. For some of these disorders whey-baths are occasionally prescribed and when the skin is hot and dry, the pulse frequent and the nervous system irritable, they render the skin soft and supple and have a general soothing effect. Literary and sedentary men, who are not in any special pathological condition but who need repose to repair their exhausted energy, would find the air of Heiden dispel many of their anomalous symptoms, and the phosphates of its

whey furnish food for their brains. The hysteric and hypochondriac also, after a few weeks of quiet life here, would begin to indulge less perverted and sombre feelings. Their appetite would improve, sleep by degrees become calmer, and other symptoms of more or less importance diminish, or altogether disappear.

Anæmic women and delicate, chlorotic (oligohæmic) girls are greatly benefited by the whey-cure, for whatever the respective and combined powers of whey and climate may be, empiricism has proved that they aid the flagging assimilative and reproductive functions, and by gentle stimulation and daily depuration, bring them back to health. The forms of anæmia most likely to derive advantage from a residence at Heiden are those induced by intermittent fevers, enlargement of the spleen, and those which are the result of old-standing liver affections and chronic dysentery.

It is alleged, though I do not know with how much truth, that goat's milk whey is best adapted for chest affections; cow's milk whey for abdominal ailments; ewe's milk whey for general nourishment. The whey of the cow is perhaps, on the whole, the best borne generally. Many dislike the strong odour of the whey of the goat, but whichever is considered the best for specific disorders, invalids who are suffering from spanæmic affections may aid the action of the whey by taking some chalybeate. There are two ferruginous sources at Heiden which, however, are generally employed externally, and had better not be used without the advice of a local doctor. But it is needless to specify minutely all the phases of disorders which are more or less benefited by the tonic influences of various mountain districts and of Heiden in particular. I have already considerably exceeded the limit of the observations I intended to make concerning this place, and will only just add that I have no interest of any sort direct or indirect, in recommending Heiden. I travel, as I have already mentioned, for the double purpose of learning all I can respecting the spas and invalid stations of the Continent and for the restoration of my own efficiency. I never say anything about medicine at the places I visit,

except to the local practitioners or to any patient or friend I may happen to meet. Even the master of our hotel, the Schweitzer Hof, did not know of my being a doctor till the account was paid, and we were on the point of leaving. My impressions and opinions are therefore unbiassed, at all events unbought. I am always accompanied by my wife to whom I am indebted for endeavouring wherever we stay to ascertain all she can about comforts most essential to ladies, especially concerning the accommodations we English consider all but indispensable for daily attention to health. In many parts of the Continent, as travellers well know, these are miserably defective even in the best hotels, but one could not wish to meet with any cleaner, more airy, or better supplied with water, than those of the Schweitzer Hof at Heiden. And here I may mention that the manager has spent some time in England, understands and can talk a little English, takes pains to accommodate his "guests," and to have the house as clean and comfortable as possible.

If any invalid, induced by these observations to go to Heiden, should be disinclined to prolong his stay, and yet wish to continue taking the whey, there are other "cures" within a few hours pleasant drive. Gais, Gonten, Urnäsch, Appenzell, and Weissbad, may be mentioned as among the nearest to Heiden. Should he still feel unsatisfied with the quiet picturesque landscapes afforded by the canton of Appenzell and long for the savagely romantic, he could gratify his taste in a few hours, for the distances in Switzerland are not great, by going to Ragatz and the neighbouring baths of Pfäfers. After inspecting the remarkable fissure there, which is a good example of the Silurian formation (shale below and limestone above), he could proceed a little farther to that still more wonderful gorge, the Via Mala. If he could bear the current of chill air and enjoy the sombre light which pervades that gloomy and awful defile, I think I might with an easy conscience leave him to retrace his steps, or find his way home by some other route without any further suggestions from me.

Invalids, who have been during the winter months on the shores of the Mediterranean, or other sheltered spots, and have been advised to try an Alpine climate for the summer, will find Heiden a suitable and charming resting place, as an intermediate station before ascending to higher and colder regions.

About the middle of April, heat and mosquitoes disperse all, excepting the natives, from the Riviera, yet the high altitudes of the Engadine are far too cold and harsh for an invalid to stay in before the middle of June. A transition from the warm dry air of a littoral residence such as Mentone or San Remo, to another, five or six thousand feet high, before the system is gradually prepared for the altered meteorologic conditions, is too great to be, in many instances, free from risk ; therefore it would be advantageous to spend the two intervening months *en route*.

Supposing an invalid to start from Cannes, Nice, Mentone or San Remo, there are several ways he may select. As he will not be fettered by want of time he can choose, if a good sailor, the voyage from Nice to Genoa, and thence to Turin by rail. But if partial to mountain scenery he may prefer to cross the Maritime Alps by the Col de Tenda, and proceed to Cuneo, where the railway for Turin begins. Both of these routes involve delays, inconveniences and crosses, so unless he has acquired a great increase of stamina during the winter he had better take an easier road. A patient from England would probably not wish to retrace his steps *vid* Marseilles, Avignon and Lyons, therefore the only remaining route would be along the Corniche road, as far as Savona, whence there is probably a direct line to Turin, *vid* Ceva and Bra. I say probably, for it was not finished when I was last there, and the construction of an Italian Strada Ferrata is at all times uncertain of completion. If the line from Savona to Turin should not be open the invalid can proceed to Genoa, a journey which, when the rail is in good order, requires about nine hours from Cannes, eight from Nice, seven from Mentone, and five from San Remo.

From Genoa to Turin takes about four hours and a half.

If the invalid who starts from Cannes or Nice cannot bear the fatigue of going on to Genoa, he should break the journey at San Remo or Savona, for hotels at the intermediate places cannot be recommended, at least they could not when I was there. He should obtain a seat on the right side of the train with his face towards Genoa. Though he will be unable to realise much of "Dr. Antonio's" glowing description of the scenery of this beautifully romantic drive, he will now and then get a glimpse of its exotic vegetation, and as he winds in and out round the jutting promontories and skirts the deeply indented bays, his eye will catch for an instant the terraced hill-sides, stippled over with white villas, campaniléd towns and, far away, the undulating mountain-line against the dark blue sky. Anon the scene will change and the tapering lateen sail of an Italian skiff come into view, and even as he gazes, in delight, on the gleamy surface of its glorious pathway the panorama will shift again, and some fresh combination of earth and sea and sky add confusion to satiety, till he must close his eyes to stay his emotions and reproduce some mental outline of this wondrous waking dream.

If the invalid cannot go direct from Savona to Turin he must proceed to Genoa and rest at the Hôtel de Ville. All who visit Genoa in the spring ought to possess fair average health and should even then protect themselves against the cutting winds of April which come sweeping along the draughty streets. There are many sights in this city of palaces and churches. Most of them, however, can be seen to but little advantage in consequence of the tortuous narrowness of the streets. The "treasury" in the cathedral contains the emerald dish in which "the blood from the Saviour's side" was caught. Cynics say it is made of modern green glass. The fee for seeing it is five francs!

The invalid should get a through carriage to Turin to obviate the necessity for changing at the crowded junction of Alessandria, and, as he will pass, at about fourteen miles from Genoa, under the central ridge of the Apennines into a colder climate, he should be careful to be well provided with warm wraps. The best hotel at Turin—the Europa—

is in a fine open piazza, not far from the station, and was very comfortable when we were there. This modern town with its wide handsome streets, intersecting each other at right angles in American fashion, is fitted for a few days acclimatizing if the wind should not be too keen and off the Alps. The invalid can keep under the sun-warmed arcades when disposed to saunter, or if strong enough for a five hours' drive, he can go out to the Basilica of La Superga, whence the extended panoramic view of the Alps will well repay him for a little fatigue. The space between Turin and Aix-les-Bains should be accomplished in one journey if possible, for the only place where an invalid could rest with comfort is Chambéry, about twenty to thirty minutes on the Turin side of Aix. The time from Turin to Aix-les-Bains, is about seven hours, and a seat should be secured on the left, facing the front of the train. The scenery from Turin to Susa is extremely beautiful and, after passing through the tunnel, the country, especially about Chambéry, is full of interest—of ancient beacon-towers and border castles. The tunnel of Mont Cenis was not finished when I had to pass over the mountain, but I am told the passage through it is easy, pleasant, and free from sulphurous acid, which in a tunnel of over seven miles, might occasion great distress to those suffering from affections of the lungs. Bradshaw says, "the tunnel is well lighted with gas throughout. The time occupied in passing through, is twenty-five minutes. The carriages, which are elegantly fitted, are used for conveyance through the tunnel only." Changing carriages is always a great disadvantage for an invalid, and I hope the Franco-Italian Company may remedy this defect in the course of time. Having arrived at Aix-les-Bains, a journey which will probably have occupied a week or more from the western Riviera, the invalid should remain there for a fortnight. The Venat and Imperial hotels are in most repute, the latter being the nearer to the station. We were at the Venat and found it very comfortable with its shady enjoyable garden. The Univers is near to the baths and park and is said to be also well appointed. The situation of Aix-les-Bains is picturesque, the surrounding country

romantic, while the monastic and Roman remains are full of interest to the archæologist and antiquary. The season at Aix begins in May, so that a visitor at the end of April, being among the first of the annual migration, is sure of special attention, and the choice of everything.

Baron Despine, the courteous and accomplished doctor of the baths, took me round them and explained their properties and his own methods of cure, with so much pains and minuteness, that I should feel considerable satisfaction in entrusting patients to his care, persuaded that he would give reliable advice about the waters, should it be thought expedient to try them. The Baron has studied in England, and speaks English fluently. Three or four hours will take the invalid to Geneva, and he should, if practicable, obtain a through carriage to avoid changing at the troublesome junction of Culoz. The scenery of the Rhone and of the Jura range affords vistas which are always pleasing and often striking. At Geneva the hotels are numerous and varied. The Hôtel des Bergues is on the lake, not far from the station, and protected in the spring from the north wind. The Métropole is vast and admirably situated on the opposite side of the lake, facing the English garden.

Extremes are said to meet! Geneva, long the asylum of Continental protestanism, and the headquarters of European proletarianism, has given shelter to the stern and faithful Jean Calvin, who headed the one, and to the vain and vicious Jean Jacques Rousseau, who propagated the other.

When the invalid leaves Geneva, he should choose a warm fine day, and instead of going by rail to Lausanne, he had better take a steamer to Ouchy. He will arrive there in about three hours, and should not land at Ouchy but at *P'embarcadère* of the "Beau Rivage." We found this hotel one of the best and most pleasant in all Switzerland.

Should the weather continue mild, the patient can amuse himself by excursions in various directions. If cold it would be wise of him to go to Montreux, a spot near Ouchy, sheltered from the north and east winds. The place,

however, is dismal, and wanting in the romance which invests its neighbour hamlets.

The time occupied by the journey between this district and Berne *vid* Freiburg, is from three to four hours, and a seat on the right ought to be secured. At Berne, the Bernerhof should be selected. It is on the best side of the town, and is airy and comfortable. The view of the Alps is magnificent and impressive. By the aid of Bradshaw and local time-tables, the invalid may interest himself in planning the remainder of his route from Berne to Heiden. Murray and Baedeker, and should he read German, Berlepsch's Schweiz will afford him all the necessary information. Berlepsch is said to be superior to the other two put together—perhaps; but this assertion must be taken with the proverbial grain of salt. The road from Berne *vid* Thun and its lake—Interlaken—the lake of Brienz and over the Brünig—to Lucerne, though striking, involves too many changes, and yet it is difficult to ask anyone, even an invalid, to forego the enjoyment of the romantic scenery of the route, from Lucerne to Zürich by Zug. Another way from Berne, by the valley of the Entlebuch, to Lucerne; and thence to Zürich, is open to similar objections.

The only continuous railroads at present from Berne to Zürich, are by Olten and Lucerne, or by Olten and Turgi. The first resembles travelling along three legs of the letter M, and therefore the second is the more eligible. The patient, if disposed, may rest before reaching Zürich, at charming, old-fashioned Baden-en-Suisse, a sedate old spa, with a great mediæval repute. Its "alcalic, muriatic, sulphureous, gaseous and hot waters," have for the last few years attracted the attention of moderns, who suffer from debility, rheumatism, catarrhs and indurated glands. Its season professes not to commence till June. The French and Swiss, by whom it is mainly patronised, are chilly folk, and slow to quit their winter quarters before summer has fairly set in. If the English frequented it more, it would be full by May. At Zürich the invalid should go to the Hôtel Bauer-au-Lac, not the Hôtel Bauer which is in the town. The situation and arrangements of the Bauer-au-Lac

cannot be excelled. I can emphatically testify to its comfort and superiority, and such evidence from one who regards many hotel-keepers of the present day as the banditti of the nineteenth century is not without its value.

Zürich, the Manchester and Birmingham of Switzerland in one, is a thriving town. Its industrial activity is the outcome of the Zwinglian spirit breathed into Züricho life, three centuries and a half ago.

Zürich has a long roll of distinguished citizens, and amongst the foremost is the magnanimous and loving Lavater, whose inexhaustible yearning and indefatigable zeal for the good of his fellow-men were crowned by a tragic death. In 1797, at the moment the French army carried the town by storm, he rushed into the street to succour the dying, and within a few paces of his own house received a fatal wound from "a French soldier, to whom only two minutes before, he had given wine and money, and while he was in the act of assisting another soldier, who had been shot. A high reward was offered by Massena, the French commander, for the discovery of the murderer, but Lavater, though he knew the assassin, refused to inform against him."

The fast train by Frauenfeld and Romanshorn will take the invalid from Zürich to Rheineck in less than three hours. At Rheineck, he will be within an hour's carriage drive of Heiden, where he can remain for a month or six weeks, before venturing to higher altitudes.

Since the above was written, the following information, in answer to some inquiries, has been forwarded to me from Heiden.

	May.	June.	July.	Aug.
Highest temperature at Heiden, F.	68°	72°	81°	77°
Lowest	36°	44°	53°	51°
Mean	52°	58°	67°	64°

The mean daily fluctuation during May, June, July, and August, while the sun was above the horizon, ranged from $1\frac{1}{2}^{\circ}$ to $2\frac{1}{2}^{\circ}$.

Greatest humidity	}	"The humidity during May, June, July, and August is never annoying, much less unhealthy."
Least		
Mean		

The prevailing winds in spring, are the east and south.

The prevailing winds in summer, are the north-east and east.

The most salubrious wind is that from the east.

Heiden is sheltered from noxious winds "by screening heights which are covered with wood."

The number of clear days throughout May, June,

July, and August, were 36

The changeable days, i.e. "insignificant rain

amidst sunshine," were 39

The number of cloudy days, were 28

The number of rainy days, were 20

"The soil is sand and lime, on a bottom of clay and marl, mixed in nearly equal proportions."

"The atmosphere is free from any intermixture of hurtful gases, also from dust, or the smoke of factories. Generally the air is very clear and healthy."

ON AN ELABORATION OF THE MATERIA MEDICA ACCORDING TO THE PRESENT STATE OF SCIENCE.*

By Dr. W. ARNOLD, of Heidelberg.

According to Hahnemann, drugs only become remedies by exciting certain conditions and symptoms; that is, by exciting a certain artificial morbid state, and thus removing and annihilating the already existing symptoms; that is, the natural morbid state which is to be healed. Just as, for him, the *ensemble* of the perceived symptoms is the disease, so by drug disease he understands the totality of the conditions which are evoked in the healthy organism by the drug. In other words, drug diseases, just as well as natural diseases, are alterations in the normal state of the healthy which are expressed by symptoms of disease.

In unison with this idea drug provings were undertaken

* From *Hirschel's Zeitschrift*. Translated by Dr. Burnett.

and symptoms of drug diseases collated. The whole homœopathic materia medica is the practical carrying out of this idea. Hahnemann and his disciples have done much in this manner, and obtained valuable results. Their followers also have essentially supplemented and completed the work thus begun. Their results, however, do not equal either in extent or number those of Hahnemann and his collaborators.

But of late years the work done in the province of the homœopathic materia medica is continually getting more seldom and sparse. Perhaps the reason of this may partially be sought in the fact that homœopathic physicians of the present day are occupied with the important and extensive task of making clinical use of the pharmacodynamic material, and thus rendering it practically useful. But the ebb cannot be quite explained in this way, more especially as we cannot maintain that the existing portraitures of drug diseases are perfect either as to completeness or lucidness. It appears an opinion has been here and there gaining ground, that both cannot be quite obtained by pursuing the same course as heretofore; and I have no hesitation in expressing this opinion openly and without reserve.

If it be now asked how we are to hold fast to the tried principles of Hahnemann, and at the same time make our method of investigation take a course that shall be in accordance with the time, a course by which the object can be best attained, then we find ourselves brought back to our first starting point, and the conviction is confirmed in us that we must start from a conception of drug disease contemporaneous with the times, if we wish to get a fresh *élan* and renewed progress in the investigation of the action of drugs on the normal organism.

By drug disease we must understand both the changes which the healthy body undergoes in its organisation, crasis, temperament and functions from drug action, and also the course and terminations of the same. If we keep a firm hold of this idea, it must be our task to investigate the subject of observation from the different sides of the disease picture, and to this behoof make use of all the auxiliary measures of

science at our command, so far as this may be necessary for the attainment of our object.

In the past and contemporaneous observations of homœopathic physicians, and in the facts collated by them, we have a pretty considerable mass of material presented to us, which however, in one direction or another, stands in need of completion and correction. The most complete are the pharmacodynamic observations of homœopaths regarding the functional processes, and of these again the most complete are those concerning the sensations, general and special, *i.e.* of the subjective symptoms as they are usually termed. Physicians of the old school have set such little value upon these that they remained unnoticed or were regarded with a sneer and underrated. We must, therefore, not be surprised that this is partly transferred to the productions of the homœopaths as they offered in regard to the subjective phenomena something essentially new, setting a value on them as characterising drug action, and making them useful for practice. Although many of the disturbances of the sensations general and special, by the action of drugs on the healthy, are so very valuable for the recognition of the drug action in its specific peculiarity and for the right choice of remedies in disease, yet we cannot deny that they may very easily lead to error, especially as a control of the subjective symptoms produced by drugs is in so many ways extremely difficult, and in part quite impossible. In order here to keep from error, we must before all things consider the individuality of the experimenter, so that his idiosyncratic symptoms may not be regarded as the specific pathogenetic effects of the drug.

Then we must only regard such symptoms which are produced by the same drug over and over again as really belonging to it and as such to be registered. It is also of import for the settlement of a subjective drug symptom that it be repeatedly corroborated *ex usu in morbis*, when it had been chosen under the guidance of the law of similars. At any rate there are many disturbances of sensation and feeling which must be made use of with very great prudence. They are, however, of such importance for the more minute dis-

tinctions in drug action that, were they neglected, we should only get a very faulty picture of the drug-diseases and we should be deprived of many most valuable *points d'appui* in choosing our remedies at the bedside. Hence we must maintain them in their integrity as essential parts of the picture of the drug disease, but yet make use of them with the greatest prudence and circumspection.

Functional disturbances which allow of objective observation offer a greater certainty against error. These must therefore constitute the physician's principal object in his proving of the drug-action on the healthy. To affirm these said facts, he may not confine himself simply to his own sensory perceptions, but he must have at his elbow all the auxiliary measures which physics and chemistry offer, in order to obtain a result which shall satisfy the demands of science in its present state. For the attainment of subjective symptoms, small and moderate doses suffice, not so here, however, for to attain to an exhaustive observation, we must know the action of larger and very large doses. Direct observations with moderate doses must indeed be the principal ones and constitute the foundation; but those of cases of poisoning are of the greatest importance, inasmuch as they bring out the functional disturbances into a clearer light, and allow us to recognise the difference between the primary action and the after-influence. The most of such observations are, however, too little pure to offer pharmacodynamics blameless material, inasmuch as the operation of the antidote has very often changed the picture.

Here experiments on animals must help us out of the difficulties, as in these many functional disturbances can be observed all the more certainly as we can choose the object as we like and bring it into a position favorable to observation.

We cannot always make a direct inference from this to the human subject, yet the results thus gained when brought together with the observations made in man conduce to a correct view.

If with this comprehensive knowledge of the subjective and objective functional disturbances we now combine the discovery of the chemical changes resulting from the action of

a drug, then the delineation of a portrait of drug disease gains essentially in perfection. Some will think this only necessary for the externally perceptible changes, and especially for the products of excretion.

But it is of importance to dip deeper into the mixing proportions more especially of the blood, and that all the more important the more the law of healing by similars extends to these proportions, and they must therefore be brought into consideration, as we for instance see done with *Phosphorus*. Besides, such experiments are not so difficult, as the results obtained from the experiments on animals have only to be confirmed in the human subject, which can be easily done by a little control experiment with a few drops of blood brought under the microscope.

The conclusion of the objective observations is formed by an examination of the organic changes which after the operations of drugs are found in this or that part of the body. If proof has been produced that a drug in larger doses is capable of effecting a metamorphosis or an inflammation of an organ or tissue, then the choice will be all the more certain when the external symptoms are similar and also similar organic changes can be recognised. For this side of the investigation of drug action we have some pretty valuable material in the more accurately observed and recorded cases of poisoning in man. Only they have this fault, that the results are obscured in consequence of the frequent concurrence of other and disturbing influences, and then the more minute examinations of the metamorphoses of the tissues are too often neglected. Here again we must have recourse to experiments on animals, which for an exact investigation of the organic metamorphoses from toxic influences cannot be too highly estimated.

A convenient collation of all the facts is now of high importance not only for a scientific representation of the portrait of drug disease, but also for the easy and correct choice of the drugs in diseases.

A synthetic arrangement of drug symptoms according to regions of the body leads by no means to a correct view

and I could not even admit that such an arrangement is exemplary of objectivity. If we desire to attain to a correct view we must give a genetic portraiture of the drug disease; a portraiture which must be arranged so as to consist of the individual cases of drug disease, an objective physiological insight into these latter having been the guide in such arrangement. In this way we get a portrait of drug disease as nearly as possible *secundum vitam*, and in which the symptoms are brought together in series and connection, and thus may be recognised according to their physiological and therapeutic value.

This objective and truly physiological portrait of drug disease contrasted with the known portrait of natural disease acquired in the same way can lead to the correct choice of a remedy, and that with greater certainty than the mechanical symptom covering. Yet we do not consider it sufficient, we rather demand of scientific and truly physiological pharmacodynamics that the totality of existing facts be subjected to a physiological test and so result in but one portrait. We seek a scientific basis for our views of drug disease not in theory of drug action, but in an analytical dismemberment of the phenomena, and in their being brought back to their causal connection, without, however, leaving the firm ground of empiricism* and wandering off into the domain of hypothesis. If we do the same with the natural disease, if we also subject this to a physiological analysis, then we acquire a pathological pathology and physiological pharmacodynamics standing homologously side by side. Both sciences must advance with equal steps and grow up to be two sisters of great resemblance to one another. A comparison of both in general and a discovery of similarity and difference in particular will bring scientific enlightenment into our pathological therapeutical knowledge and conduce to a right guidance in the path of healing.

The *materia medica* elaborated in this manner must meet with recognition, and in this way the law of similars would stand on such a firm basis and be so comprehensive

* Used in the sense of *experience*.—Translator.

that a general recognition of its worth could no longer be refused.

If the circumspect, farseeing, and unprejudiced colleagues, otherwise generally pretty much at one with us, will subject this proposal to an examination, then we shall give a new impulse to a fresh scientific development of pharmacodynamics and also sterling strengthening work to our younger professional brethren who are fired with zeal for science.

WALDENBURG'S EXPERIMENTS ON ANIMALS APPLIED TO HUMAN TUBERCULOSIS AND PULMONARY CONSUMPTION.*

THE preceding division of my work details the results of my experiments on animals with respect to the artificial production of tuberculosis. The conclusions deducible from this line of inquiry cannot be utilized in human pathology for either theoretical or practical purposes, unless it can be proved that the results drawn from animals harmonize with the experience furnished by man, and that at least the principal and best established facts of human pathology admit of easy adaptation to the views which have been obtained by experimenting on animals.

It is a noteworthy fact that even before the introduction of experimental research, some theorists had advanced opinions concerning the nature of human tuberculosis, which are strikingly analogous to the conclusions that my experiments warrant—a sufficient proof that my own theory, although derived from animal pathology, is not altogether heterogeneous to the pathology of man.

I. First of all, the theory of Buhl deserves our close attention. This author embodies his deductions in a report on the post-mortem examination of tuberculous and

* *Die Tuberculose, die Lungenschwindsucht, und Scrophulose*, section v, pp. 446—465. Translated by George Moore, M.D.

of phthisical subjects.* He distinguishes three different forms—(1) Acute miliary tuberculosis ; (2) Acute infiltration ; (3) Chronic tuberculosis. Of the first he observed twenty-three cases ; in twenty-one of them either cheesy infiltrated deposits or caverns were present in the lungs at the same time, and in one case tubercular bone disease. From this almost constant relation, which Rokitansky had also noticed, Buhl deduces a causative connection, namely, that miliary tuberculosis is not an accidental complication, but a result of existent cheesy deposits. "Acute miliary tuberculosis," he says, "is a specific resorption and infection disease," in which a specific poison—tubercular matter—gets into the blood, and is deposited, like smallpox virus in the skin,† at very numerous points in the lungs, in the form of grey granulations, consisting of soft and easily destructible little masses of proliferous granules and cells held together by a homogeneous or finely granular intermediate substance. In Buhl's opinion, the occurrence of miliary tuberculosis without detectable cheesy deposits, is no argument against his theory, since, in point of fact, only a minimum quantity of tubercular matter is sufficient to generate infection. Miliary tubercles are formed chiefly, and with special frequency, in the vicinity of infecting deposits ; but the infection may spread from a single centre over the whole body. Of the twenty-one cases cited above, eighteen began in the lungs, and two in the bronchial and mediastinal glands ; whilst in eleven, starting points were present in the abdomen at the same time. Furthermore, Buhl lays stress on the predilection of tubercles for the blood and lymphatic vessels.

The following is a summary of Buhl's arguments for his proposition that miliary tuberculosis is "a resorption, or a local and general infection disease"—(1) the almost invariable presence of yellow tubercle, or of cavities in the lungs ; (2) this tubercle is not encapsulated, and these cavities are not surrounded on all sides with a thick fibroid

* *Zeitschr. f. rat. Medicin*, 1857. Bericht über 280 Leichenöffnungen.

† Engel likewise compares acute miliary tuberculosis with variola. *Prager, Vierteljahrsschr.*, 1856, i, p. 37.

membrane, hence resorption easily occurs ; (3) the largest accumulation of miliary tubercles, which are at first small, soft, and grey, is in the immediate vicinity of infection deposits ; (4) fresh miliary tubercles are developed from the centre to the circumference, so that the oldest and largest are nearest to the infection deposits, as well as those that have become yellow and solitary ; whereas the youngest and smallest, the soft and grey ones, are found furthest from such deposits ; (5) the possible formation of grey, consequently of contemporaneous miliary tubercles in almost all parenchymas and serous surfaces, even when but a single resorption deposit is present in the body ; (6) the clinical and anatomical characters of an infection disease, and, indeed, anatomically of a specific infection disease, (7) the location of isolated grey miliary tubercles in the meshwork of tissues belonging to the vessels of the lymphatic system.

Buhl compares "acute tubercular pneumonia or tubercular infiltration," with diphtheritis, and proposes to designate it "lobular diphtheritic pneumonia." This process has nothing in common with miliary tuberculosis ; it may, however, be the cause of the latter, although secondary infection seems to be possible only when the acute action has ended, and lapsed into chronic tuberculosis. The third form, "chronic tuberculosis," may depend on diphtheritic pneumonia, but it may also originate from an inflammatory or croupous capillary bronchitis. Buhl explains the hereditary production of tuberculosis by supposing that the specific virus is transmitted in the seminal fluid, or in the ovum, provided that the man or the woman suffers from tubercular infection at the time of copulation and conception.

This survey of Buhl's theory clearly shows that his views, and those which rest on my experiments, are similar in many of the most essential points. We are agreed that tuberculosis is a resorption disease, and that a primary infection deposit, arising either spontaneously or from inoculation, and foreign particles in the blood, are the indispensable precursors of tuberculosis. But I do not

consider the tubercular matter to be of a specific nature, nor do I agree with the view that it is a chemical poison capable of transmission in the semen; on the contrary, the true carriers of infection are, in my opinion, the corpuscular particles themselves. Moreover, I do not restrict my search for the primary centre of infection to cheesy deposits and caverns only.

In short, all the arguments advanced in favour of Buhl's theory, apply with equal force to mine; they prove that tuberculosis is a resorption disease, but not that it is a specific infection disease. His sixth argument, which declares that miliary tuberculosis presents the anatomical characters of a specific infection disease, is entirely unsupported by evidence, as was pointed out in an earlier discussion. The problem whether a disease is or is not specific must be solved, not by the anatomical features, but by the clinical history, and especially by the ætiology. Besides, the resemblance between the course and symptoms of tuberculosis and those of typhus is not at all sufficient to stamp the former as a specific disease. A thorough examination will be made later on of all the individual factors, and especially the ætiological, with the view of ascertaining whether they support or contradict my theory; and it will then be seen that the specific doctrine can be dispensed with just as well for human tuberculosis, as for the tubercular disease artificially producible in animals.

Niemeyer has recently adopted Buhl's theory, but with an important modification which brings it into closer alliance with mine.* He, like Buhl, places great weight on the presence, in the majority of cases, of a primary cheesy deposit, the starting point of infection, in the vicinity of which true miliary tubercles are developed secondarily. How the original deposit sets up infection Niemeyer does not explain, he merely states his opinion in the following general terms:—"Tuberculosis is in most cases a secondary disease arising, in a way not exactly known to us, from the influence of the caseous products of

* *Klinische Vorträge über Lungenschwindsucht.*

disease on the organism." He weakens Buhl's theory in contending that the cheesy deposits have a local action mainly, which operates in their immediate vicinity. The lymphatic vessels are principally concerned in the process, and neither resorption into the blood, nor the remote operations resulting therefrom, are regarded as important. Hence he dissents from what Buhl has affirmed respecting the constant dependence of miliary tuberculosis on pre-existent cheesy deposits. In one respect, however, Niemeyer improves Buhl's theory, and draws it nearer to mine, namely, he wages war against the specific nature of tuberculosis, and, in particular, opposes the idea that infecting cheesy deposits contain a specific virus.

C. E. Hoffmann has lately published some exact and excellent observations, which furnish the most valuable confirmation of Buhl's theory.* He, too, shows that pre-existing cheesy deposits are detectable in almost all cases of miliary tuberculosis, that pneumonical processes precede true tubercles in the lung, and that in other regions also, for instance, in the urinary and genital organs, primary deposits which are the cheesy products of inflammation, and therefore, non-tubercular, may lead to the secondary formation of tubercles. He adduces cases to prove the development of both local and general miliary tuberculosis after caseous inflammation of the urinary organs, after caseation of lymphatic glands, and as the consequence of extinct peritonitis with residual cheesy products. He also refers to a case of miliary tuberculosis, in which, it is true, no cheesy deposit could be discovered, but in which the anamnesis made the earlier existence of such deposit in the highest degree probable. Hence, even this non-discovery at the autopsy is not a convincing argument against his theory, the counterpart of Buhl's. Hoffmann formulates his theory thus:—"Miliary tuberculosis is a morbid result of the accumulation of cheesy detritus in the body, and originates directly from this accumulation." On one point he disagrees with Buhl, and this is in questioning the specific nature of tuberculosis. It is clear from all these considerations that his stand-point

* *Deutsches Archiv. f. klinische Medicin*, iv, i, p. 67, 1867.

is as nearly the same as my own ; and yet his views are not based on sufficient experiments, but are almost exclusively deduced from clinical and pathological observations, a testimony that cannot be too highly estimated for the value of the results yielded by my experiments on animals.

II. In the second place, Dittrich's theory, which is older and more generally accepted than Buhl's, requires notice. From the exposition of C. Martius*, one of his pupils, Dittrich, it appears, maintains that the principal cause of diseases in general and of tuberculosis in particular, is the resorption into the blood of the products of retrograde metamorphosis, by which a special blood "crasis," chiefly a morbid condition of the blood-fibrin, is established. This doctrine has not as yet, to my knowledge, found any supporters in authoritative circles, nor is it likely to be accepted in its present form, since it is altogether too vague, deals with completely unknown factors, and does not rest on sufficiently exact and convincing observations. Still, Dittrich's theory contains many points well deserving consideration ; for instance, the resorption of the products of regressive metamorphoses is, on *à priori* grounds, likely to tell on the organism, and that it does so, is proved by numerous clinical data. Tuberculosis is included amongst the diversified diseases which, according to Dittrich, owe their origin to the resorption of organic detritus ; and in this light he also views the tuberculosis which is an occasional consequence of carcinomatous affections, and that which very frequently follows diabetes mellitus, &c.

These conclusions have an important relation to my own opinions ; but his theory, as a whole, differs from mine in the following essential particulars :—(1) Its limits are not defined with sufficient sharpness, for the most dissimilar diseases, in addition to tuberculosis, arise from the resorption of organic detritus ; (2) it is nowhere stated that the foreign material must necessarily be corpuscular elements, in fact, Dittrich seems to have directed his attention rather to the abnormal products of chemical decomposition ; (3) for this reason, he seeks for the cause of tuberculosis in a general

† *Die Combinationsverhältnisse des Krebses und der Tuberculose.*

contamination of the blood, and not in the operation of small individual particles, a view which is entirely different from mine ; (4) in his opinion, tuberculosis need not of necessity depend on the resorption of foreign matters into the blood, but may likewise result from other causes that alter the blood-fibrin, such as, bad air, poor food, mental disorders, &c. ; (5) he uses the word "tuberculosis" in a different sense from what I do ; since with him it is the old, vague designation for not only true miliary tuberculosis, but also for all sorts of phthisis and cheesy products. In short, the only important point of contact between our theories—his, based on clinical observation, mine, on experimental research—consists in his statement that tuberculosis may appear as the consequence of diseases attended with abundant disintegration of tissue.

III. My theory occupies an intermediate position between that of Buhl as modified by Hoffmann, and that of Dittrich, and appropriates to itself serviceable points of evidence from both. It may be expressed in the following proposition :—*Miliary tuberculosis is a resorption disease which arises from the resorption of very finely divided corpuscular elements into the circulation, and the deposition of the same as minute nodular formations in numerous scattered points of different organs.* Tuberculosis, therefore, is a general disease, and in a certain sense, a blood-disease, though not a specific one. Amongst all the diseases in the nosological system, it stands the nearest to pyæmia, which is also regarded as a non-specific resorption disease. Pyæmia, likewise, forms isolated deposits in various organs, but they are of a purulent inflammatory nature, and are larger than in tuberculosis. In pyæmia, the elements taken up into the blood are more bulky, and hence cause embolism, stasis, large abscesses, and necrosis ; they have, in addition, a putrid or an infectious property which sets up severe constitutional disturbance, and extensive districts of local irritation. In tuberculosis, on the other hand, the particles are small and finely divided, and appear to be destitute of a considerable irritating nature ; for these reasons, they give rise to the formation of small miliary deposits, instead of well-marked, or at least, exten-

sive inflammations.* Tuberculosis is more distantly allied to infectious diseases in which there is resorption of specific elements; in this respect it stands nearest to ileo-typhus.

Two forms are met with, the acute and the chronic. Acute tuberculosis sets in with violent symptoms of a grave infectious disease, and arises, in my opinion, when a relatively large quantity of extraneous particles or detritus gets into the blood all at once and spreads over a great number of organs at the same time. The chronic form, on the other hand, appears when the resorption of detritus takes place more slowly and is limited to small districts in the vicinity of infection deposits. After a time the process comes to a stand-still; later, it receives a fresh impulse, partly from the first deposits and partly from other secondary deposits which have in the meanwhile undergone softening; and lastly, it either becomes general or the patient dies from the effects of the more or less localised lesions. In the acute form a rapid taking up of detritus directly into the blood-vessels must be assumed as occurring almost beyond doubt, whereas in the chronic form the lymphatic vessels appear to be especially concerned; hence, the symptoms are violent and general in the former, milder and local in the latter. But even in chronic tuberculosis the blood-vessels play a not unimportant part, and thus may be explained the frequent "jumps" of the disease from a primary centre to a more distant organ, as, for instance, the supervention of tubercular meningitis when cheesy deposits already exist in the lungs, &c.

With regard to the proximate causes of tuberculosis my experiments showed that the most influential one in animals is the inoculation of certain external substances. Of course, this mode of origin has much less significance in man, and, therefore, the chief consideration will now be

* The close relationship between these two diseases has been insisted upon still later by Dr. Burdon-Sanderson, in the *Lancet* of May 12, 1872. A letter appeared from me a fortnight afterwards in the same periodical, pointing out Waldenburg's prior views, and giving the above translation of the differential pathology between them.—G. M.

paid to the other cause, namely, self-infection. My experiments showed that the agents which most surely produce tuberculosis in animals through resorption are cheesy products, of whatsoever source, whether derived from true tubercle; or thickened pus, or hyperplastic lymphatic glands, &c. The application of this fact to human tuberculosis compels me to maintain, with Buhl, that the accumulation of cheesy matter in any organ of the human body is the most potent and most frequent cause in producing tuberculosis.

Amongst such collections of thickened cheesy pus, the products of caseous pneumonia occupy the first rank. It has been proved in a previous discussion that the most frequent starting-point of pulmonary consumption is cheesy pneumonia, and not true miliary tuberculosis. As long as phthisis depends entirely on this kind of pneumonia it must be regarded as a local disease; but since it generally arises from a determinate constitutional cause, it must be looked upon as a constitutional disease. In this sense phthisis may run its course to a fatal termination without being complicated with tuberculosis, or end in recovery. But it may also lead to secondary tuberculosis from resorption of the cheesy detritus, and this appears to be the most common result. This process is, at least in the beginning, usually limited to the vicinity of the cheesy deposits or to cavities produced when these deposits ulcerate; but sooner or later it spreads to the rest of the lung, or seizes upon the pleura, the intestinal canal, the larynx, &c. Such is the course of "chronic tuberculosis" or "chronic tubercular phthisis." Whilst the phthisis depending on simple caseous pneumonia must be viewed as a local (constitutional) disease, tuberculosis, on the contrary, is, on the whole, a general disease, although at first it may appear in a circumscribed area only. Another course is the following:—A cheesy pneumonic deposit has existed for a longer or shorter period, the symptoms of pulmonary consumption being either "florid" or having already disappeared, as is more frequently the case, when suddenly miliary tuberculosis of the brain-membranes, or of other

distant organs, sets in as a complication and death ensues from this cause. Lastly, an existent cheesy deposit in the lung may suddenly excite general acute tuberculosis. In all these instances it is assumed that tuberculosis results from the resorption of cheesy detritus.

The cheesy inflammatory products of other organs are on the same footing as those of the lung, and when present, as, for example, in the genito-urinary organs, easily lead to tuberculosis, which is at first mostly limited to these parts, but not unfrequently spreads to more distant organs, and at last becomes universal and fatal.

It may be that the larynx also is in the like position. I have had frequent opportunities in my practice of observing tuberculosis brought on by laryngitis ulcerosa, or inflammation with swelling of the ary-cartilages, whilst not the least trace of morbid change in the lungs could be detected by physical examination. I think it very probable that here also cheesy detritus had been formed and had become resorbed. Another possible source of infection will be noticed at length later on; to wit, the secretion from the ulcers in the larynx drops into the lungs and causes inflammation with cheesy products, which then become the agents of general infection.

In the bowels miliary tubercles are very commonly found around the ulcers of intestinal phthisis. It must justly be regarded as still doubtful whether these ulcers always depend on true tubercle; at all events, the possibility is not far-fetched that they may, in certain circumstances, be follicular, and that miliary tuberculosis may ensue secondarily from primary follicular deposits which have undergone cheesy degeneration.

Lastly, cheesy purulent exudations from serous membranes, especially the pleura and peritoneum, are sources—it might be said recognised sources—of miliary tuberculosis. It has been proved by numerous observations that tuberculosis is one of the commonest diseases after such exudations. Hitherto the explanation of this occurrence has always been shirked by resorting to the convenient and shallow saying that “tuberculosis springs from a general

cachexia." But why should tuberculosis, and no other cachectic disease, appear in these circumstances? Now, however, my experiments enable us to give up an explanation which, in common with many like it in medical science, merely smoothed over difficulties, and to substitute the more precise assertion that in these cases tuberculosis arises directly from the resorption of cheesy detritus.

Caseous lymphatic glands stand next to cheesy deposits as producers of tuberculosis. The question discussed earlier, concerning the relation of scrofulosis to tuberculosis, can be explained here in the simplest and most satisfactory manner. In fact, there exists between them the relation of cause and effect. Scrofulosis entails miliary tuberculosis when the cheesy matter in lymphatic glands is resorbed into the blood. A cheesy condition of the tonsils, the cervical glands, the bronchial and mediastinal glands, and of lymphatic glands, wheresoever located, may be followed by tuberculosis, either local or general, acute in type when resorption occurs suddenly, chronic when this is gradual. Scrofulosis is just as little a specific disease as caseous pneumonia; but it is, like the latter, or, correctly speaking, in a higher degree than the latter, a constitutional disease. Moreover, the scrofulous constitution in itself may stand in a certain causative relation to caseous pneumonia—a subject on which further remarks will be made subsequently. The products of scrofulosis, like those of caseous pneumonia, are, in my opinion, destitute of virulent as well as of specific properties. It is not necessary to repeat here what was said in a preceding section on the manner in which resorbed and degenerated pus- or lymph-corpuscles become operative in the blood. However, all that I have stated on this matter with respect to animals I feel inclined to transfer to my conceptions of human tuberculosis.

According to the preceding exposition, caseous inflammations, especially cheesy pneumonia and cheesy enlargement of the lymphatic glands, are primary affections, and miliary tuberculosis is a secondary disease. It is necessary, however, to qualify this statement, because neither cheesy pneumonia nor the caseous or suppurative inflam-

mations of other organs than the lungs need be always primary. In my experiments on animals numerous cases were met with in which such inflammations appeared, like tubercles, secondarily after inoculation; in them, therefore, suppurative or cheesy inflammation occupied the same developmental position as miliary tubercles. We cannot, it is true, lay any weight on the caseation of inflammatory products in animals, for in such animals this change is prone to take place naturally; but neither should the influence of caseation in man be rated too highly. On this point my opinions may be thus expressed:—The same causes which commonly produce tuberculosis may also, in certain circumstances, lead to inflammations in different organs; these inflammations are usually circumscribed, and beget suppurative products, which undergo caseation when the predisposition exists and the conditions are favorable. They are in most cases differentiated from primary cheesy deposits by paying attention to the clinical history and the duration of the disease at the *post-mortem* examination, and they are distinguished by appearing in multiple outbreaks, and by being generally accompanied with true miliary tuberculosis.

I have seen suppurative inflammation of lymphatic glands and simple caseation follow from inoculation, contemporaneously with miliary tuberculosis in the internal organs. Consequently the affections of lymphatic glands may also represent diseases which are secondary and on an equal footing with tubercles; this, indeed, is constantly observed in man likewise when, on *post-mortem* examination, the glands are found affected with true tubercles and with hyperplasia from simple inflammatory or cheesy processes, whilst miliary tuberculosis coexists in the internal organs. Nor should these facts cause us to draw wrong deductions, for it can hardly be difficult to distinguish secondary gland affections from the primary deposits that constitute the starting-point of the whole disease.

Again, my experiments point even to the possibility that all the various symptoms of scrofulosis—skin eruptions, inflammations of the eyes, caries of bones, swelling, inflam-

mation, and caseation of lymphatic glands, suppurative and cheesy inflammation of the internal organs—may result from causes similar to those which generally excite tuberculosis. Still, these experiments have not finally solved the problem, for other contributory causes were in operation, such as want of air and of good light and food, and it was impossible to determine which cause was the most influential. I must here content myself with the mere mention of the facts, and with the exhortation that further and more searching investigations will be undertaken.

The statement just made, that cheesy inflammations and scrofulous processes are not necessarily always primary affections, but may also, in certain circumstances, appear as secondary diseases, owning the same genesis as tuberculosis, will perhaps stagger those schematists who are so fond of neatly grouping facts into artificial systems; nor are such persons likely to recover their composure by the question being asked, Is tuberculosis *always* a secondary disease? No "schema" exists in nature, and, therefore, we need not be surprised if this question also is answered, as we soon shall see, in a manner antagonistic to system-mongering.

It might be supposed, but erroneously so, that tuberculosis is primary when the primary deposit from which resorption of minute foreign particles into the blood takes place can no longer be discovered at the time of "florid" tuberculosis, in consequence of the detritus being completely resorbed and the original affection healed. Nevertheless, in such a case the tuberculosis may be considered as a genuine secondary disease, because the primary disease may still be detectable by the anamnesis; or, should the *post-mortem* inspection fail in finding this primary disease, we have to do merely with an incident which, it is true, seemingly contradicts my theory, but which, in reality, cannot be used against it, since the anamnesis is either unknown or insufficiently elucidated.

In addition to cheesy deposits several other affections must be brought forward as possible causes of tuberculosis.

It is, for instance, questionable whether or not tuberculosis may result from simple purulent collections, when

they are not opened early enough, or when the discharge from them is arrested from any cause and resorption takes place. There are, further, a large number of morbid states that have been looked upon as causes of phthisis from ancient times; but the moderns, influenced by excessive scepticism, have discarded them in accordance with the dangerous maxim that what cannot be understood does not exist. It was formerly taught that phthisis arises from the suppression of habitual secretions and excretions, either physiological or pathological, as, for example, after the stoppage of blennorrhœal discharges, the disappearance of skin eruptions, the sudden healing of chronic ulcers and fistulas, the sudden cessation of the menstrual and hæmorrhoidal fluxes, &c. All these influences will be descanted upon subsequently, and the reader will then see that the old doctrine is not altogether *bizarre*, but rests on sound observations which the moderns should not undervalue. It is assumed, in unison with my theory, that the sudden suppression or healing of these diseases leads partly to the resorption of abnormal detritus, and partly to the retention in the blood of pathological products which were wont to be excreted through long-standing outlets, the final result being tuberculosis.

Hæmoptysis, also, was from ancient times looked upon as one of the most important causes of phthisis; but this opinion was overturned by Laennec, who maintained that hæmoptysis is not the cause but the result of tuberculosis. In my opinion the old doctrine on this point must be restored to its rightful position. It will be proved shortly that every day's experience, when considered fairly and impartially, stands in contradiction to Laennec's dogma. According to my theory blood-clots are left behind in the lungs by the hæmoptysis, and set up pneumonical processes, which end in phthisis and secondarily in tuberculosis, and it is even possible that tuberculosis is directly excited by resorption of the degenerated and metamorphosed constituents of the blood. My experiments on animals show that blood in the air-passages can cause pneumonia, but they are as yet far from sufficient to determine all the questions

which are bound up in this one, and which require not only further experiments on animals but also more exact observations on man.

All the affections just pointed out resemble cheesy deposits in being primary causes of tuberculosis, but they may have completely disappeared at the time when tuberculosis sets in, and especially when the patient is examined after death. In such a case we have apparently to deal with a primary idiopathic affection, and yet it is really and truly a secondary resorption disease, which nothing but the anamnesis is able to elucidate.

When tuberculosis arises from suppressed menstruation, or the arrest of physiological secretions, a primary disease, strictly speaking, does not exist; but the tuberculosis arises as the first direct disease from the disturbance of the physiological functions. Nevertheless, the process is obviously the same as if a pathological product had been resorbed.

An important question now is, whether those substances which produce tuberculosis when resorbed into the blood must necessarily spring from the organism itself, or whether the admission of foreign particles from without, perhaps by means of respiration, may not also exercise a similar influence. The fact that phthisis and tuberculosis follow the breathing of air impregnated with certain dusts rests on positive and sufficient evidence; but it is still a moot point whether the lung diseases resulting from inhalation of dust are always primarily of an inflammatory nature, tuberculosis supervening secondarily, or whether the foreign particles received into the lungs act directly in the formation of tubercles. If the latter view be substantiated, which seems very doubtful, we should have an example of primary tuberculosis in the true sense of the word. Those cases, too, in which disease arises from contagion would have to be interpreted as primary tuberculosis, on the assumption that the detritus thrown into the air when the patient expectorates is breathed by the nurse or other person standing near his breath.

We have now to examine in detail whether my theory is

supported by the experience hitherto acquired, and also whether or not it is contradicted by weighty arguments. I shall successively consult (1) pathological anatomy, (2) pathology, (3) and ætiology, in order to show how my theory stands in relation to recognised facts, and how it is established by them collectively. But before doing this I should like to eliminate the objection that resorption is often observed, and yet tuberculosis does not follow. I fully admit the occurrence, but fail to find in it a valid objection against my views. I have already repeatedly insisted on the circumstance that the individual factors which co-operate in developing tuberculosis are very far from being known with sufficient precision to enable us to affirm that tuberculosis will arise in one case and not in another. We know neither the special conditions nor the way in which resorption takes place, nor the nature of the foreign particles, &c., so that a decided opinion cannot be arrived at. The same uncertainty confronts us in almost all diseases. When ten persons are exposed to the same injurious influences, why do only two or three sicken, and the rest remain healthy? Our knowledge is still limited everywhere; therefore, we should not yet expect full "daylight" in all the details of a subject that has but very recently been brought into notice.

There is one more point worthy of mention in relation to this matter. The resorption of pathological products may, as is well known, be accomplished in different ways. The most common form of resorption is that after previous fatty degeneration of the accumulated products. If these are thoroughly transformed into fine fatty molecules, the latter appear to be harmless when resorbed, and thus may be explained the majority of cases in which, notwithstanding obvious resorption, tuberculosis does not occur. On the other hand, if the fatty metamorphosis is not completely effected, if other foreign particles are taken up, or if elements not yet thoroughly disintegrated, such as shrivelled pus-corpuses, are resorbed, then the formation of tuberculosis is promoted. In like manner, a sudden resorption would threaten danger, whereas a very gradual one may proceed without serious results. It is, of course, a very important

question whether the morbid products are safely encapsulated, owing to the formation of a circumscribing membrane, or whether they are loosely mixed up with the sound tissue. In the former case the resorption of corpuscular elements and consequent infection are obstructed, or even prevented; in the latter case favoured and promoted. The transformation of the pathological deposit itself into a chalky or a fibrous substance is, obviously enough, the best safeguard against infection.

(To be continued.)

MEDICAL CHARITY.

THE subject of the gratuitous system of medical relief in the metropolis has lately attracted much attention, and its evils have been forcibly pointed out by Sir C. Trevelyan in certain letters to the *Times* and *Lancet*.

Sir Charles Trevelyan is chiefly concerned with the demoralising effects of indiscriminate medical charity on the working classes and lower tradesmen, but he incidentally touches on the injury it inflicts on the medical practitioner, whose patients are lured from him by the inducement of free treatment at the legion of hospitals and dispensaries.

Simultaneously with this movement against indiscriminate medical charity the medical practitioners have started an association to reform the present practice at our hospitals and dispensaries, on the ground that "it is sapping the foundations of independence among the working classes," but chiefly, we presume, as far as they are concerned, on the ground that it is "doing serious injury to medical practitioners."

So long ago as 1856, in an article on the *Hospital System of London*, we pointed out the evils to patients and practitioners of the indiscriminate system of medical charity then prevailing in London. We took our facts and figures from the reports of the year 1851, that being the year of the previous census of the population.

We there showed that, owing to the facilities offered to all classes in London to obtain gratuitous advice in hospitals and dispensaries, it appeared, to judge from the reports published by these various institutions, that a number of patients equal to one third of the whole population was annually treated gratuitously at the London hospitals and dispensaries. That there is no diminution in this enormous proportion of patients treated gratuitously in London at the present day is sufficiently shown by the figures given in Mr. H. N. Hardy's *Facts and Figures*, No. 1. He says that the annual number of out-patients treated at the various hospitals of London is 911,488, considerably over one fourth of the actual population of London; and if to these we add the gratuitously treated in-patients in these hospitals, and those treated at the forty workhouses, we shall not be far wrong in stating the numbers treated gratuitously at the London hospitals and dispensaries as equal to one third of the population.

Now, it is very remarkable in connexion with these figures to know that Mr. Neison, in his *Vital Statistics*, p. 108, says that the annual rate of sickness is only 274 per 1000 of the population, that is to say, little over one fourth. What margin of paying patients will be left for the support of the practitioners of the metropolis if these figures are correct? Of course it is impossible they can be correct. Either Mr. Neison's calculation is below the mark or the returns from the various hospitals are untrustworthy. Probably many patients go the round of a large number of the hospitals and dispensaries in the course of a year. This view would seem to be warranted by the fact mentioned by Sir C. Trevelyan, that "clergymen and district visitors, in their visits to the poor, constantly see rows of phials obtained—some from one and some from another hospital or dispensary." No doubt, too, many patients who are faithful to one hospital are entered several times in one year, as they may be treated for different affections.

Were there not some error of this sort in these figures it is obvious that there would be no paying patients at all,

and no medical practitioner would be able to earn a livelihood, which is not quite the case yet, whatever it may eventually be.

In the article referred to above we showed that in 1851, when the population of London was 2,862,236, the number of medical practitioners in London that year, as shown by the *Medical Directory*, was 2615, which gave the proportion of one practitioner to 904 inhabitants. We showed also that Paris and Vienna, where the gratuitous medical advice was not carried on to anything like the extent it was in London, and where the medical fees were, as a rule, much lower than in London, the proportion of doctors to population was much greater than in London—that Vienna had one doctor to 649 inhabitants, and Paris one doctor to 731 inhabitants.

In other words, supposing London had then the same proportion of medical men to population as Paris, it should, with its population, have supported 3231 medical men in place of 2615; and if it had the same population as Vienna, 3639 medical men should have been able to earn a livelihood in it; that is to say, with the Paris population London should have given a livelihood to 616 more medical men than it did, and with the Vienna proportion to 1024 more.

That things have not improved for the doctors since then is obvious if we compare the population of London, as shown by the census of 1871, with the number of medical men in London in that year as shown by Kelly's *Medical Guide* for 1872. The population had increased to 3,251,804, while the number of medical practitioners had increased to 3375, giving a proportion of one practitioner to 933 inhabitants.* Had the proportion of twenty years since been maintained, London in 1871 should have had 3597 medical practitioners, that is to say, it should have afforded

* If we can trust the statistics published in a late number of the *Medical Review*, the State of New York must be the paradise of doctors. A population of 4,382,000 supports 7000 medical practitioners, which gives an average of one doctor to every 626 inhabitants. Probably the health of New York State is not so good as that of London, and certainly the system of gratuitous medical aid is not carried on to the extent it is in our metropolis.

a livelihood to 222 more than it actually did. Had London in 1871 possessed the same proportion of medical men as Paris, these should have numbered 4448; and had it had the same proportion as Vienna, it should have afforded subsistence to as many as 5010 practitioners. By the Paris standard it should have supported 1093, and by the Vienna standard 1635, more medical men than it actually did in 1871.

It is impossible to tell precisely all the causes that have contributed to make the proportion of medical men to inhabitants so much less in London than in the two capitals named. No doubt London is healthier than either Paris or Vienna, so we may admit that fewer doctors are required for our metropolis, but then doctors' fees are, as a rule, larger in London than in either the French or the Austrian capital. But this advantage is probably neutralised by the greater expense of living here, or, at least, by the more expensive scale on which we think it requisite to live.

The difference in the healthiness of the capitals would only account for a small portion of the difference in the proportions of their medical practitioners to population, and probably the main cause of this difference is the enormous abuse of medical charity in London and the general prevalence of counter-practice by the chemists.* Gratuitous medical advice, corresponding to our dispensaries and hospital out-patient department, is very limited in Paris and Vienna, and counter-practice by chemists is illegal and utterly unknown.

The extent to which gratuitous medical advice is carried in London is apparent by the figures above given. It is all very well to say that well-to-do persons, quite capable of paying a smaller or larger fee, are wrong to avail themselves of the dispensaries and hospitals that are intended for the poor only. But the fault does not lie entirely or chiefly with them. The managers of these dispensaries

* Mr. Sandford, a late President of the Pharmaceutical Society, objected to ladies being admitted to the Pharmaceutical Society, on the ground that "there may be more fitting occupations for them than listening to the description of bodily ailments over shop counters;" thereby implying that that was one of the chief occupations of chemists!!!

and hospitals are greatly to blame for the abuse of their charities. They have hard work to obtain the necessary funds from the public for the support of their respective institutions. They have to contend with a hundred rivals for the guinea of Dives. So they must prove to him that their particular institution is the most worthy of his money. What a grand card it is to be able to say "50,000 sick poor annually relieved (or, may be, cured) at our establishment!" "The ever-increasing utility of our institution is shown by the yearly increase of sick poor relieved by it!" And then sundry texts of Scripture, mayhap, are thrown at Dives's head, such as "I was sick, and ye visited me," the relevancy of which is not quite apparent, as they do not expect Dives to visit the sick, nor do they do so themselves; "Heal the sick!" &c.

In order to show these large figures, patients are invited, almost requested, to come to the dispensary or hospital; no inquiries are made as to their ability or otherwise to pay a medical man. The doctors are worked beyond the limits of human ability to give proper attention to each case. "One hundred and twenty patients were seen and dismissed by one medical officer in an hour and ten minutes, or at the rate of thirty-five seconds each. Physic was ordered almost at random and poured out of a huge brown jug, as if the main object were to get rid of a set of troublesome customers rather than cure their complaints" (St. Bartholomew's, *Lancet report on out-patient department*). Of course, such treatment can have no effect in curing, but if the case be one of acute disease it probably gets well in spite of the treatment, probably taking somewhat longer than it would had no treatment been used; if the case be one of chronic disease, after being probably made somewhat worse by the treatment, the patient ceases to attend that institution, and either gives up the attempt to be cured as hopeless or goes to some other kindred institution, to get other thirty-five seconds of examination and other doses of medicine out of "a huge brown jug," with the same result. In this way one case may go the round of a dozen institutions in the course of a year, giving a

month to each, and sometimes, as would appear from Sir C. Trevelyan's letter, attending several dispensaries at the same time.

In this way the bloated statistics of our hospitals and dispensaries are swollen, and as every case admitted is put down in the annual report as cured, or at least relieved, the effect on charitable Dives as he reads the enormous sum-total must be presumed to be prodigious.

These figures are not furnished by the poor only, or perhaps chiefly. The *Lancet*, which has latterly turned round and taken up the cudgels on behalf of the present state of things, coolly tells us that the out-patient department of our hospitals is not intended for the necessitous poor. These dirty creatures, we presume, must apply to the workhouse or the relieving officer for their ailments. The out-patient departments of our hospitals are meant for furnishing fit subjects for study to our medical students and opportunities for gaining experience by our rising medical men. The patients must not be too dirty, for then, of course, they would not be pleasant objects to touch or to approach very closely. So we find them to consist chiefly of small tradesmen, the better class of artisans, mingled with clerks and shopmen and idle people enjoying a modest income. At the Royal Free Hospital, situated in a poor part of London, there were found, according to Mr. Hardy (l. c., p. 6), "policemen, gardeners, tailors, musicians, railway porters, cabdrivers, ostlers, gunsmiths, lawyers' clerks, housekeepers, warehousemen, bookfolders, and servants, not always out of place." This writer, who has officiated at two gratuitous dispensaries and one free hospital, can supplement this list with butchers, bakers, shoemakers, grocers, greengrocers, in short, with master-tradesmen and shopkeepers of every sort.

These respectable parties, who are perfectly competent to pay the practitioner a moderate fee and who do so pay him in every place where the gratuitous system is not carried to excess, feel no qualms of conscience at availing themselves of the gratuitous treatment at the hospital or dispensary. The officiating doctor is powerless to prevent

this abuse of a so-called charity, for if he ventured to address a remonstrance to the fussy managers, and to insinuate that some means should be taken to ascertain that the patients admitted to the charity were unable to pay for advice, these managers, probably highly respectable tradesmen themselves, would immediately set the poor doctor down as entirely wanting in that large-hearted charity they feel within themselves, and receive his request for the elimination of those able-to-pay patients who swell their statistics with as much astonishment as they would a request to supply the goods they deal in to all comers for nothing.

The fame of the dispensary or hospital they administer depends on the numbers they can show to have been treated in the annual report. Perhaps the doctor has a flourishing private practice, so he does not mind—nay, perhaps, he rather likes—that the patients should be rather respectable than poor. But, perhaps, on the other hand, his private practice is none too large, while his family is decidedly so, and he sees himself bound to prescribe gratuitously for numbers of patients who might well afford to pay him his modest fee; perhaps he sees more than one among the crowd of patients who used to be his own private patients, and who seem to say as they take the prescription, “Aha! doctor, you see we can get your advice for nothing.” This must fill the cup of his bitterness to the brim; in fact, set it running over. No wonder he revenges himself by allowing only thirty-five seconds to each patient and ordering the physic at random out of a huge brown jug. We may be sure quassia must be the chief ingredient of this delectable mixture.

What valuable experience our doctor must gain from this style of practice, and how instructive to the students who have the advantage of attending during the consultation hour! How they must admire the skill that can make the diagnosis and write the prescription in thirty-five seconds, on an average; and with what awe must they not regard the huge brown jug and its wonder-working contents—

"O! bouteille,
Pleine toute,
De mystères!"

they must exclaim as they see each patient, whatever his disease, supplied with a draught from its never-failing spout.

Or, perhaps, our student will be found attending the out-patient department of King's College Hospital. Here is a description of it from no unfriendly hand in the *Medical Times and Gazette*—

"The manner of seeing patients, in the out-patient physician's room especially, is somewhat distracting. The physician and his assistant sit at two small tables only two or three feet apart, and a crowd of patients—we have seen as many as twenty—are admitted into the room at a time, and arrange themselves in two groups around each table. A small torn screen is placed in one corner of the room, behind which patients have to undress for examination. The confusion of voices, shuffling of feet, opening and shutting of doors, and shouting of porters and others heard from without, render such diagnostic exercises as percussion and auscultation severe trials of patience and acuteness, remarkably creditable to those who undergo them."

But the figures of the annual report do not always give the true number of patients treated during the year if we may believe the editor of the *London Medical Guide* for 1872 :

"At one institution an out-patient may present himself ten, twenty, or more times, extending over a period of several months, and yet only be counted as one patient in the return. At another hospital a flatulent old woman, or a wheezy night-cabman, may be made, by entry as a distinct case at each visit, to swell the numerical return of out-patients more than twenty severe cases of illness would at a dispensary or hospital where the system is followed up of entering each patient once only, however long the attendance may be."

In short, it would appear that but little reliance can be placed on the returns from the various hospitals and dispensaries.

One thing, however, is certain, and that is, the diminished proportion of medical practitioners in London to inhabitants during the last twenty years. In 1851 one practitioner to 904 inhabitants; in 1871 one practitioner to 933 inhabitants. Another observable circumstance is that this greater number of possible patients to doctors does not seem to support the doctors so well as the smaller number of 1851; for the doctors are crying out in the

medical journals and getting up meetings in the London Tavern and forming associations to put down practices that do them, as they believe, "serious injury."

The above figures show that the population of London now supports a smaller number of medical practitioners in proportion to its numbers than it did twenty years ago.* The causes of this may be various, and it must be difficult to assign to each its due influence. It may be, and undoubtedly is the case, that the expense of living has considerably increased during this double decade, while the tariff of medical fees has remained stationary or nearly so. If, then, doctors live as well now as they did twenty years ago, their living will cost them more, and if their charges have not increased in proportion, each will require a larger *clientèle* for his support.

The healthiness of the town has improved. There will consequently be fewer cases of sickness per cent. per annum than there were twenty years ago. So the practitioner will still require a larger *clientèle* to have the same amount of practice.

The spread of homœopathy by introducing a large amount of domestic practice has no doubt considerably diminished the number of occasions when a doctor is sent for. Where it has not done this it has certainly lessened the faith of many in drugs and doctors, and led them to trust rather to the *vis medicatrix* of nature than to that of art.

The behaviour of the self-styled regulars towards their homœopathic brethren has no doubt contributed somewhat

* Perhaps the poorer classes of patients able to pay, and who used to pay a small fee, have been driven to resort to the gratuitous hospitals and dispensaries by the dearth of practitioners willing to take the small fees they could afford to give. This seems to be the opinion of Mr. Hancock, if we may judge by what he says in the *Hunterian Oration* in February last. He asserts that the high standard of education now exacted by the examining boards tends to deprive the poorer classes of the assistance of properly qualified medical men. "Under the old regulations," he says, "many estimable men—not too refined or too highly educated scholastically, I admit, but skilful and well-informed professionally—were content to settle down and pass their lives among the poor, accommodating themselves to their peculiarities and ministering to their wants. These men are no longer allowed to enter our profession." He mentions that, whereas in 1842 640 gentlemen were admitted members of the College of Surgeons, in 1872, notwithstanding the increase of population by nearly 7,000,000, only 374 were admitted.

to diminish their estimation in the eyes of the public, and possibly to throw many of their patients into the hands of their rivals of Hahnemann's school. Of course those patients that come over to homœopathy are not lost to the profession, but the amount of medical practice is thereby much diminished, for diseases are cured more quickly and professional visits are necessarily fewer under homœopathic than under ordinary treatment. Thus a homœopathic practitioner will require a considerably larger *clientèle* than an allopathic one in order to earn the same income. Hence the more patients employ homœopathic practitioners, the fewer doctors will be required for a given number of patients.

But undoubtedly the main cause of the curtailed field of remunerative practice in London is the prodigious increase of gratuitous medical advice given in the out-patient departments of our hospitals, and in our ever multiplying dispensaries. To show this increase within the last ten years we will take the numbers furnished by seven of the principal hospitals, these being the least likely to provide us with cooked statistics, for 1861 and 1871.

<i>Number of out-patients at</i>	<i>In 1861.</i>	<i>In 1871.</i>
St. Bartholomew's Hospital . .	86,964	119,968
Westminster " .	16,680	26,657
St. George's " .	10,525	18,923
London " .	25,507	63,786
Charing Cross " .	17,297	17,452
University " .	19,644	26,359
King's College " .	34,521	35,045
	<hr/> 211,188	<hr/> 308,140

Now, if we take the population of London as shown by the census of 1861, viz. 2,803,989, and compare this with the population in 1871—3,251,804—we shall find that if the number of out-patients treated at these hospitals in 1871 had continued to increase in the same ratio as the population, the out-patients treated at these seven hospitals in 1871 should only have amounted to 244,822 in place of 308,140. Thus, in 1871, there were treated 53,318 more out-patients at these hospitals than can be accounted for by

the natural increase of the population. Whence were these 53,318 patients drawn? It cannot be said that the health of London, as shown by the rate of mortality, was worse in 1871 than in 1861; nor are the working classes less prosperous or receiving less wages now than they did ten years ago. The contrary is rather the case. These 53,318 cases must therefore have been drawn into the maelstrom of gratuitous practice from a class or classes of the community who, in 1861, would have scorned to accept eleemosynary medical aid, but would have paid their doctors like honest independent Englishmen. But we are at present not so much interested in the degrading and demoralizing effects of this stupendous and monstrous system of gratuitous medical treatment on the patients, as in the wrong thereby done to the medical profession, and the demoralization it causes among the members of what ought to be a liberal profession.

The fancied introduction to lucrative practice offered by our hospitals and dispensaries—for the most part a sheer delusion—impels practitioners to compete vigorously for every unpaid situation that may fall vacant. The managers or governors of these institutions seeing the eagerness with which each post is struggled for, naturally think there must be some occult advantage attaching to it, and so they feel themselves to be the dispensers of favour and patronage to the whole medical profession, at no inconvenience or cost to themselves beyond their yearly guinea. The guinea, like mercy, is twice blessed. It satisfies the donor's charitable promptings, and invests him with most valuable patronage. By it he feels that he at once contributes to the relief of suffering humanity, and to the advancement of a young doctor to a much coveted post. He fulfils a great Christian obligation, and finds himself regarded by a number of talented and highly educated men, probably his social superiors, as a patron to be solicited. At least, so some of them regard themselves. We all remember the anecdote of Abernethy when he was a candidate for some hospital appointment, and on his round of the governors, he came to the shop of a pompous grocer, who greeted him with

"Well, young man, I suppose you have come to solicit my patronage." "Oh no, nothing of the sort," says Abernethy, "a penn'orth of figs, please, and put them up quick, for I'm in a hurry." But we fear the demon of competition has wellnigh crushed out this Abernethian intolerance of patronage from our present race of candidates for medical appointments.

We see the disastrous effects of the diminished field of remunerative medical practice in the multiplication of special hospitals and dispensaries all over London. But these only increase the evil. If they, by acting as a kind of advertisement, increase the paying practice of the doctor or surgeon who starts them, they at the same time withdraw a large number of patients from the field of remunerative practice by indiscriminate gratuitous medical aid. It will appear almost incredible, but it is a fact, that in London there have been established, since 1860, no less than forty-six hospitals and dispensaries for the gratuitous treatment of patients. Of course this increase of hospitals and dispensaries is vastly beyond the requirements of the population, which, as we have shown, had already a superfluity of gratuitous medical practice twenty years ago, since which time such practice has gone on increasing in a mathematical ratio.

In our April and July numbers for last year we alluded to the moral degradation undergone by the great body of the profession as a consequence of their persistent false witness against their brethren who have adopted the homœopathic treatment. This low moral tone is not improved, but, on the contrary, intensified by the loss of practice the metropolitan practitioner sees himself exposed to by the continued abstraction of so many patients into the vortex of gratuitous advice. Of course, high-minded men would sooner starve than be guilty of meanness; but the lengthened practice of unmerited vituperation and detraction of a number of men at least their equals in qualifications, talents, and honesty, has so blunted their moral sense that we now notice that breaches of etiquette, accusations of enticing away each other's patients

by improper means, are more frequently to be seen in the medical journals; the medical attendants of highly placed patients and all their doings are more frequently introduced into the columns of the daily papers; everlasting advertisements of medical works, of which the most important point is the author's name, have become more numerous; and anything new in the way of practice is at once taken up by numerous practitioners, who seem to expect to rise, and often succeed in rising, into a certain fame in connexion with the novelty.

Our own school has not escaped unscathed from this fierce competition existing in the old school ranks. Some practitioners, with or without the proper legal qualifications, who had probably failed to push themselves into practice on the ordinary system, have fastened themselves like unwholesome parasites on homœopathy, and have brought no little discredit on our whole body by their practices. There has been a perfect flood of popular books and pamphlets, many of which are merely intended to bring the writers' names before the patient world. Living sandwiches parade the chief thoroughfares of London, with a gigantic shilling emblazoned on their boards and an announcement that for this sum homœopathic advice will be given at stated addresses; and some self-styled homœopathic practitioners bring disgrace upon our school by engrafting on it the secret nostrums of crude quackery.

The remedy for the present deplorable state of medical practice in London would appear to be, to curtail greatly the amount of gratuitous medical advice at our hospitals and dispensaries, to confine this to the really poor, by which we mean those who cannot afford to pay even a small fee to a medical practitioner. How this is to be done we do not very well see at present, but we think that when medical men are convinced of the injury done to the interests of the whole profession by the present system of indiscriminate gratuitous medical advice, and when they see the deplorable selfishness and shortsightedness of multiplying for their own private ends the institutions where such advice is to be had, they will be able to devise some

remedy. Indeed, it seems to us the remedy is in their own hands. They have only to refuse to be associated with hospitals and dispensaries where their talents and time are *exploités* to cut their own throats, as it were, by giving unremunerated advice to patients perfectly well able to pay for what they are not ashamed to take as a free gift, by a committee of tradesmen and others whose maxim in their own peculiar line of business is invariably "nothink for nothink."

Unless the profession apply the remedy themselves and make a stand against the whole system of indiscriminate medical charity, we do not see how they can be helped. It is not here as in France and most other countries of Europe, where no hospital or dispensary can be opened without the authorisation of Government, and where every such institution—as in France, for instance—must be placed under the charge of a Bureau de Bienfaisance, which takes care that these institutions shall not be needlessly multiplied. Here, on the contrary, any knot of fussy philanthropists who would appear charitable by dispensing open-handed medical relief to all and sundry at some soft-hearted doctor's expense; or any pushing doctor who wishes to establish a reputation for some speciality, can open a hospital or dispensary and puff it into notoriety by advertisements, circulars, balls, concerts, and bazaars, to the infinite discredit of true charity and to the damage of a hard-working and ill-remunerated profession.

Provident dispensaries are very good in their way, and the proper principle prevails in them of remunerating, in some degree, the medical practitioner for the work he does without sacrificing the independence of the patient. But what chance has a provident dispensary when probably in the very next street some puffing gratuitous institution permits, nay invites, the very patients who would support the provident dispensary to come and get the superior advice of their eminent staff "without money and without price?"

Exacting a small fee from each patient at every visit, sixpence, for instance, as Sir C. Trevelyan proposes, is open to very grave objections, and every high-minded medical man

would feel it a degradation to be connected with an institution of this sort, where he would feel himself on a par with the patrons of those offensive board-men with their emblazoned shilling.

To admit without any restriction whatever unrecommended patients on payment of a shilling for two months' attendance, called a registration fee, as is done in the London Homœopathic Hospital, is altogether objectionable. It keeps away the poorest classes and attracts many who could well afford to pay for medical advice—who, in fact, have been in the habit of paying a doctor well; while it relieves them of the sense of accepting a charitable dole, as they regard the shilling they pay monthly as a fee, which, if it be small, that is no business of theirs, and they no doubt believe the doctor who advises them derives benefit from it; which, of course, is not the case, as the money so collected goes to pay the expenses of maintaining the hospital.

The position of the general practitioner in London during the three months including the last two of 1872 and the first of 1873 when the health of the town was so exceptionally good, as shown by the weekly average of deaths having been during all that time from 400 to upwards of 700 below the average, when the price of meat was excessive and of coals enormous, must have been in many cases a very hard one. Many a hard-working practitioner has spent a *mauvais quart d'année* and had but a cheerless Christmas though—or shall we say because?—the weather was so mild and genial. They have scorned to complain directly, but one may judge what they have suffered when one reads of the bitterness with which they have commenced to denounce the practice of indiscriminate gratuitous medical advice at our hospitals and dispensaries. No doubt the dear provisions and coals which affected all housekeepers acted in driving a portion of those who in happier times would have paid their doctor to the sources of gratuitous medical relief, for when it was urgently necessary to economize in one direction in order to procure the due supply of dearer necessities, the facility with which the economy could be made at the doctor's expense was too tempting to be resisted.

SYPHILIS.

By Dr. C. B. KER.

THE case of syphilis here reported is interesting as illustrating some of the disputed and doubtful points which have been debated by writers on that disease, and as illustrating also the good effects of *Mercurius solubilis*, the only medicine which was administered.

Mr. G. H—, æt. 39, a man in vigorous health and of powerful frame, consulted me, on June 3rd, 1872, for an itching in the glans penis and prepuce, or rather in the sulcus between them, which had come on about two nights before. On examination of the parts there was nothing to be seen. There was no urethral discharge; no pain nor difficulty in micturition, and no pain nor heat in any part of the penis. Tickling and itching were all he complained of, and, at the seat of such irritation, there was no redness, no swelling, no excoriation. He confessed to having had connection with a prostitute on the night of the 28th of May, and that that connection was the only one he had indulged in for more than six months.

The prescription was *Mercurius solubilis*, 2nd trituration, of which he was directed to take two grains three times a day.

June 7th.—He called again. In the part where he had complained of having had the itching there is a red crack or fissure of about a third of an inch in length, and having the appearance of the scratch of a blunt pin. In this crack there is a good deal of soreness and tenderness, and occasionally lancinating pains. The adjoining parts are red and puffed, and the whole prepuce is swollen and painful. There is no pain nor tenderness in either groin. There was no appearance till last night of any sore or abrasion, which was the tenth from the contaminating connection. There is no difficulty or pain in micturition, and the general health is perfectly good. He has never had an

attack of syphilis (properly so called), but about twenty years ago he suffered from more than one attack of gonorrhœa. *Mercurius solubilis* was repeated.

June 14th, a week later, he came to show me the condition of the parts. I had hoped that the small fissure would prove to be nothing more than a simple excoriation, but on examination it was at once evident that there was something more formidable to be dealt with. The crack in the sulcus had developed itself into an oval-shaped ulcer, about the size of a horsebean, excavated, and with hard base and hard edges. This ulcer discharges a glairy, viscid, whitish matter, is very sore, and is the seat of shooting pains. The prepuce is much swollen, and is with difficulty drawn back to show the glans and the sore, and with still more difficulty restored to its proper place. There have been sharp momentary pains in the left groin, but there is no tenderness nor swelling there. From a strain in riding he had, about twenty-two years ago, an indurated gland in that groin, which, however, never suppurated. There is no chordee or pain in micturition, or urethral discharge. The general health is still perfectly good; he sleeps and eats well, and maintains his full strength. The same prescription to be persevered with.

June 22nd.—He called again to show himself. The chancre looks clean and more healthy; the base and edges are still hard, and it discharges viscid, slimy, whitish matter. There has been no return of pain in the left groin, and there is no appearance of swelling there. He makes no complaint whatever but of the sore and of the pain which it still gives him. The same prescription as before.

July 7th.—The chancre is harder and larger, but there is no change in any other respect. The pain and discharge from the sore continue the same. *Mercurius solubilis* was again prescribed, and he was directed to take even more pains than before to keep the parts clean by frequent ablutions with a weak solution of acetic acid.

August 2nd.—The condition of the parts has changed greatly to the better. The chancre is nearly well. It is less excavated, smaller, cleaner, less hard, and less sore.

There is scarcely any discharge. The prepuce is reduced to nearly its natural size, and admits of being easily retracted and restored to its proper place again. There had, however, been most acute pains again in the left groin, accompanied by swelling and tenderness, and lasting for about three days. He had been bathing and swimming, and the return of pain in that locality was caused probably by the unusual exertion. The pain continues, but in a less degree. *Belladonna* 1^x was prescribed, and hot water fomentations to the groin at night, followed by cold.

9th.—He reports himself well. On examination there is scarcely a trace of the chancre. There is no pain or tenderness in the groin, nor in any part of the penis, and the prepuce and the glans have their natural colour and size. He has continued perfectly well from that time to the present date (March 7th).

That this was a case of genuine syphilitic or Hunterian chancre there is no reasonable ground for doubting; but if such was the fact some of the accepted rules laid down by the latest authorities on syphilis for guidance in diagnosis require modification. It is said by those authorities that one test by which the distinction between the true and spurious, the infecting and non-infecting, the hard and soft chancre may be determined is the period of incubation. The spurious, the soft, the suppurating, the non-infecting sore has scarcely any incubation period at all, or one of, at most, six to eight days. On the other hand, the true, infecting, hard, Hunterian chancre may not show itself for six weeks after the contaminating intercourse, and rarely sooner than three weeks. Such are the accepted beliefs as to the incubation-period of such well-known writers as Lancereaux in France, and Lee in this country, and they are followed by most writers on syphilis of the present time.

Again, nearly all are agreed as to the distinction between the hard and the soft sore. The hard sore is the true, infecting, Hunterian chancre; the soft is non-infecting, spurious, and inflammatory. The discharge from the true

is whitish, ropy, and adhesive, whereas that from the soft is purulent or sanious.

Again, it is maintained by many that the hard chancre is always followed by constitutional symptoms, or by secondaries as they are called, or preceded by them, for there is difference of opinion as to the said constitutional symptoms. It is insisted on by some that a true chancre is the outward sign of the inward taint, and that the infecting chancre is no more a merely local disease than a tuberculous mass in the lungs is, or a scirrhus mammæ. Such was Hahnemann's opinion. On the other hand, more assert that the chancre itself is the infecting medium, and that there can be no secondaries where there has been no chancre.

It is said, again, that in doubtful cases *Mercury* and *Iodide of Potassium* should be tried as remedies, and that, when cure is effected by either of those medicines, there is proof positive that syphilis is the disease dealt with; and it is also maintained that Nature cannot perform a cure in syphilis.

Tried by these canons of syphilographers, the case above reported must be considered to be one of true syphilitic chancre if the last one is the test. It was treated and cured by *Mercury*. If it had not been treated by *Mercury* or by some other medicine it would not have got well, for "Nature cannot cure a case of syphilis." But by another of the canons the case cannot be considered one of syphilis, for it is maintained that the true, infecting, hard chancre is always followed by constitutional symptoms or preceded by them; whereas there were such symptoms neither before nor after. It may be said that it is too soon to judge, for, according to a select few, syphilis may be latent in the system for half a lifetime and then break out when it is least expected. All that can be said for the reported case is, that the cure, to all appearances, was complete in the beginning of last August, and that now, in March, there is not an indication of either local or general symptoms. M. Lagneau, however, mentions cases of hard chancre not followed by constitutional symptoms.

Tried by the incubation test, also, judgment must be

given against the case as one of true syphilis, for it is insisted upon that three, four, or even five weeks must elapse between infecting connection and the first appearance of the sore, if that sore is the Hunterian hard chancre. But only ten days elapsed. M. Lagneau, however, maintains that the period of incubation is no test, for, whereas a soft chancre may not appear for seven days after intercourse, a hard one may appear in six. But he believes that hard and soft chancre are different forms of the same thing. And yet, judged by the remaining canon, there seems to be no real ground for doubting that the sore was a true syphilitic chancre. The characters of such are, hardness of edges and base, the absence of inflammation and purulent discharge, and the presence of a viscid, glairy, whitish secretion. Such characters the reported case had. There are other distinctions between the true and the false chancre. The true is infecting, the false non-infecting. The true is not auto-inoculable, the false is so to any extent. The false is frequently, and the true rarely, accompanied by buboes in the groin; and the latter always, and the former never, complicated with secondaries. But those tests could not be applied to the case.

Enough has been said to show that, however much syphilis has been studied during the present century in this country and in others, the disputable and doubtful points are still very numerous, and that we are very far from having attained absolute certainty in its diagnosis or success in its treatment. Indeed, there is scarcely one point relating to the history, diagnosis, pathology, or treatment of the disease which is universally granted. As to the treatment, one is almost forced to believe that it is impossible to come to a conclusion. *Mercury* is condemned as the parent of all the ills of syphilis, and it is extolled as the one medicine without which syphilis cannot be cured; and some who do not go so far as this say that secondaries, at all events, are not to be cured without *Mercury*. It is blamed for the severe disease of the past; and the more protracted forms of the present are attributed to the want of that drug. By some it is said to act like syphilis on the

system, but by others this is wholly denied. But from the tone some writers adopt, the conclusion must be come to that it is still a question whether any treatment is of avail; whether, in fact, cases of the disease should not be left to Nature. Others, however, insist that Nature never can cure unassisted, and of this opinion was Hahnemann.

Other disputed points are—hereditariness, which some affirm and others deny; the relationship of scrofula to syphilis; the one-poison theory, or that of two, three, or four; the possibility of one sore passing into another—the true chancre into the spurious, for instance; the period of incubation of the true and false chancre; induration the test or not of the true chancre; hard chancre a proof of constitutional taint or preceding constitutional taint; soft chancre followed or not by constitutional symptoms; the terms primary, secondary, and tertiary, are they justifiable or not? the use of *Iodide of Potassium*; primary symptoms to be treated or not? Is tonic treatment the only proper one? Is the disease a parasitical one? May the disease be latent in one generation and break out in the next? Is it capable of being communicated by vaccine matter? Is there any virtue in syphilization as a remedy? Is auto-inoculation a test of a non-infecting chancre? Are suppurating sores non-infecting? Are secondary and tertiary sores infecting, or the blood of those affected by them? Does one infection of syphilis protect from a repetition of the disease? Are caustics efficacious in the treatment of venereal sores? Are pegged teeth a mark of hereditary syphilis, or scrofulous corneitis, or the state of the upper incisors? Hereditary disease being granted, does it come through the mother alone? Are any prophylactic measures wholly preventive? The blood and lymphatics being contaminated, do they remain so for life? Is there such a thing as epidemic or endemic syphilis? May the internal viscera be affected with the disease?

There is not one of these questions to which different and contradictory replies are not given, and replies strengthened by strong facts and arguments; and it may, therefore, be said confidently that nothing relating to syphilis is certain.

Its very diagnosis is a question, occasionally of great doubt and difficulty. Some maintain that purulent urethral discharge, which has not had sexual intercourse as its cause, followed by sores on the glans and elsewhere, is not to be distinguished from syphilis. Within the last three months a case has been under my care which presented many difficulties in the diagnosis. A young gentleman, 18 years old, consulted me for a small induration on the prepuce; this was on October 21st of last year. There was no sore and no tenderness; it was about the size of a split pea, and it had been first noticed about a month before. He assured me that he had never had sexual intercourse in his life, and I was inclined to believe him, notwithstanding the fact of a slight discharge from the urethra which he had in addition, but which was not and had not been attended with pain in micturition. He attributed the induration to having bruised the penis in a watercloset, and having afterwards rubbed and scratched the prepuce violently to relieve the itching caused by the bruise. On November 5th he wrote to me to say that there was a slight rash on the cheeks, and on December 11th he wrote again to report that there was scarcely a trace of induration on the prepuce, that the urethral discharge had wholly ceased, but that an eruption had broken out on many parts of the body, but especially on the chest, abdomen and scalp. His general health, he said, was perfectly good. On December 26th I saw him. There was no doubt on my mind, when I saw him, as to the character of the eruption. The yellowish-brown spots, irregular in shape and size and distribution, were unmistakeable indications of the history of the induration on the prepuce, and I saw that I had a case of secondary syphilis to deal with, and told my patient so. He maintained, however, the truth of his first account, and so was not convinced by what I told him of the real nature of his disease—at least he professed not to be convinced. If he is right the case may be one of those rare ones in which infection has come from the wooden fittings of a water closet being charged with poisonous matter from a syphilitic sore. Such a mode of infection is certainly

denied by most, but as certainly maintained by some. It appears to me to be an improbable but not an impossible way of accounting for the disease in question. A point of interest in it is the fact that the chancre on the prepuce—for chancre the event proved it to be—never became an open sore, but remained an induration to the end. It is another of the disputed questions of syphilis whether secondaries ever show themselves in cases where the chancre remains an induration merely. The weight of testimony is in favour of the affirmative side of the proposition, and the above case is strong argument on that side.

One of the chief battles fought on the syphilis question, and one which always ends in a "draw," or in both parties claiming the victory, is on the venereal poison. John Hunter taught that there was one poison only; that that poison would cause every variety of gonorrhœal or syphilitic mischief; and that chancre could give gonorrhœa and secondaries, gonorrhœa secondaries and chancre, and secondaries gonorrhœa and chancre. But Hunter, some present writers insist, is wrong. There is not one poison in venereal disease, but two—the gonorrhœal and syphilitic. Other authorities, however, assert that there are three poisons: that of gonorrhœa, that of hard chancre, and that of soft chancre. And there is yet another set of authorities, and their view of the case is that there are four poisons—the gonorrhœal, and that from hard, soft and mixed sores, the mixed sore being a compound of the hard and the soft. The bulk of modern writers are what are called dualists on this question, not unicists; that is to say, they believe in the existence of two kinds of venereal sore, the hard infecting and the soft non-infecting, gonorrhœa being not considered in the argument.

Notwithstanding the strongly expressed and strongly defended views of the dualists it appears to me that John Hunter's opinion that there is one poison only in all venereal cases has never been disproved. At the same time it must be acknowledged that his view has never been wholly demonstrated. He adopted what must be allowed to have been a good test of the nature of the venereal virus. He

inoculated himself on the penis with gonorrhœal matter, and the result was gonorrhœa, chancre, and secondary syphilis, from which he did not get free for three years. It appears as if this experiment should have been considered to settle the question. But the dualists say that the man from whom Hunter derived the gonorrheal matter may have had secondaries at the time, or a concealed chancre. This is certainly possible; but there never was a more careful experimentalist than Hunter, and it is not likely that in an investigation of this kind he would fail to make himself master of all the facts of a case on which he had staked his own health. His opponents have no way of getting over the conclusions founded on this experiment but one, and that one they have adopted. They have discredited the experimenter by insisting that he concealed the truth or did not know it—a bold charge to make against the celebrated physiologist and inductive philosopher. Those opponents maintain, in spite of this experiment of John Hunter's, not only that gonorrhœa and syphilis depend on two distinct poisons, but that, as has been just said, there are two other distinct poisons—three indeed, one of the hard chancre, another of the soft, and a third coming under neither of those categories, to which they give the name "mixed." One would have thought that the fact of the existence of a sore, which could not be characterised as either infecting or non-infecting, hard or soft, would have staggered the dualists, and forced them to the conclusion that, after all, there could not be an absolute distinction between hard and soft sores, but that they were somehow or other convertible into each other. But they have arrived at no such conclusion. On the contrary, they describe the "mixed" sore as something quite distinct from the hard and the soft, and devise ingenious explanations to account for its existence. M. Ricord accounts for it by saying that it is caused by intercourse between two persons, one having a soft and the other a hard chancre. Mr. Lee labours hard to explain away the fact of a soft sore being often followed by secondary symptoms. He maintains that it is not a soft sore that is so followed, but a "mixed" one, the soft

sore with its inflammation and suppuration masking a hard sore, the hard one, of course, accounting for the constitutional contamination. Or there are, he says, at the same time two separate diseases existing, or peculiarity of bodily habit, or saturation with hereditary taint. But these are suppositions, not facts, and Mr. Lee has no more right to found conclusions upon them than to find fault with John Hunter for saying that there is one venereal poison only. John Hunter, nevertheless, will probably prove to be right. His opinion that there is one venereal poison only will be, the more the question is studied, recognised as founded in fact. Experiments made on animals, though perhaps not quite conclusive, corroborate that view. Mr. Bradley has experimented largely on monkeys, kittens, and guinea-pigs. From his experiments he came to the conclusion that there was but one venereal poison. In those animals he often produced soft and auto-inoculable sores with matter taken from the hard Hunterian chancre, proving that a hard does not cause a hard or a soft a soft sore. Mr. Savory says that the two sores are sometimes not to be distinguished from each other, and may even pass into each other, which does not look as if they had a distinct origin. Lagneau also, and Leon Lebel, and Professor Wertheim, and M. Ricord, all argue that there is one syphilitic poison only.

But there are numerous authorities on the other or Dualist side whose names have great weight,—Mr. Lee, for instance, and M. Lancereaux, and Berkeley Hill and W. Coulson. Mr. Lee maintains that the soft suppurating sore does not contaminate the system, and he quotes Dr. Daniellsen's experiments to the number of many thousands in proof of this. By him (Lee) induration is considered to be one test of an infecting sore and inoculation another, for matter from such sore cannot be inoculated on the person from whom it is taken nor upon another who is syphilitic; whereas matter from a soft sore is auto-inoculable to any extent on the same person or any other.

Before concluding these remarks it is right to allude to Hahnemann's opinions on the subject of this disease. It is one he studied very closely and on which he wrote much.

So far back as 1788 he published a work entitled, *Instruction for Surgeons respecting Venereal Diseases, together with a New Mercurial Preparation*, a work which is included in Dr. Dudgeon's translation of *The Lesser Writings*. And in his *Chronic Diseases* he refers frequently to syphilis and to the treatment which he considers best for it. As may be supposed the views developed in 1788, and at the date of his work on *Chronic Diseases*, are very different. In both works he recommends *Mercurius solubilis* as the best remedy; but whereas, when he first wrote on syphilis, he recommended that medicine to be given in doses varying from one grain to sixty, till not salivation but mercurial fever was induced, his later practice was to give one globule of the 30th potency for a dose, and not only so, but he taught that such dose was sufficient to cure, and that without repetition, a case not only of primary syphilis but even of secondaries, if the latter disease was not complicated with psora. One of his doctrines was to the effect that chancre, so far from being a local sore and one that could be extirpated by caustics and escharotics, was an effect and not a cause of constitutional contamination. He not only condemned, therefore, attempts to cure or remove sores and chancres by such means, but deprecated any interference with them at all. He never himself made use of any external means but tepid water ablutions. The longer the chancre lasted the less chance there was, he believed, of secondary symptoms, a lues venerea, as he called it, showing themselves. He accordingly gave medicine not to cure the chancre but to neutralise the blood-poisoning. When this object was gained the chancre cured itself. When the system is infected, he says, "then it is that nature produces the chancre upon the primitively infected spot with a view, as it were, of hushing the internal affection."

Again, he says, "Secondaries never show as long as the chancre exists, and hence the folly of curing the chancre. As long as the chancre existed the organism was yet tainted with the syphilitic virus, whereas the disappearance of the chancre, consequent upon the internal administration of appropriate remedies, was a sure sign of the

internal disease having been completely and permanently cured. In my practice of fifty years' duration I have never seen syphilis breaking out in the system whenever the chancre was cured by internal remedies without having been mismanaged by external treatment."

This doctrine of Hahnemann's as to the chancre being a proof of constitutional contamination is one which is held by some of the best authorities of the present time—Cazenave, for instance, and Lancereaux, and Vidal. When one reflects for a moment on the period of incubation—two or three weeks—which elapses between the infecting intercourse and the appearance of the chancre, it appears surprising that any other conclusion could be arrived at. And yet the doctrine is by no means generally held even now, and some of the best surgeons, both in France and England, maintain that the best treatment of chancre, if the treatment is commenced early, is the free use of caustics.

Hahnemann agrees with John Hunter in believing in one venereal poison only which is capable of producing gonorrhœa in one, and syphilis in another, and simple sores in a third. To this opinion will most probably come all who inquire into the subject. It is true that, at first sight, there is a marked difference between a purulent urethral discharge, a hard or soft chancre, a bubo, and secondary and tertiary symptoms, but they may be, for all that, manifestations of one poison, the differences depending on a variety of external circumstances. We do not say that there are two scarlatina poisons, though what can be more different than the case in which there is scarcely any fever or sore throat, a healthy-looking roseate rash, and no other symptoms, and the case ushered in by violent vomiting and followed up by a train of malignant symptoms ending in collapse and death in twenty-four hours or less. Hahnemann was also before his time in recognising the fact of syphilitic affection of the internal viscera, the lungs, for instance, a fact only lately allowed, and strenuously denied by so eminent a surgeon as Sir Astley Cooper. Though maintaining the doctrine of one poison only, he

(Hahnemann) knew that there was more than one description of chancre, as is proved when he says, "The earlier a chancre breaks out after infection the more it is disposed to inflammation; the later it appears, the more readily will the blood be inoculated by the poison." As to the incubation period, he makes it very short, and therein differs greatly from modern authorities. He makes it thirty-six hours, and says that it is rare that it is "several days." He must allude, one would think, to the soft, purulent, non-infecting chancre. Finally, he maintains that primary and secondary syphilis are among the few diseases not to be cured by the efforts of nature.

Notwithstanding, therefore, all that has been said against Hahnemann's teaching on the subject of syphilis, it is shown here that in many respects his views are those of the best authorities of the present time, and that great credit is due to him for having enunciated those views more than half a century ago. Had it not been for what he taught as to the treatment so much discredit would not have been thrown upon him. It is curious that the fact of chancres getting well under the use of a globule of the decillionth potency of *Mercurius solubilis* did not make him doubt the truth of one of his data—that nature could not cure a case of chancre; and still more curious that the cure of secondary syphilis by the same dose did not force him to that conclusion. Hahnemann was a good observer, and we must take it for granted that chancres and secondaries recovered under his care, no other medicine being given by him than one single dose of *Mercurius solubilis* in the 30th potency. His conclusion that recovery took place by virtue of the action of the single globule administered may be reasonably challenged. If so, then we are driven to the alternative conclusion, notwithstanding the master's dictum, that nature can cure syphilis.

PRACTICAL REMARKS ON *PODOPHYLLIN*.

By Dr. JOHN MOORE.

(Read before the British Homœopathic Society.)

BEFORE I enter on the immediate subject of my paper I beg to be allowed to make a few remarks on the substance itself, although it is now so well known and so freely used by both schools that it seems almost needless to do so save as a reminder. *Podophyllin* is a resinoid substance obtained from the *Podophyllum peltatum*, the plant known as the mandrake, or May-apple, or wild lemon, indigenous to America, belonging to the natural order *Berberidaceæ*, the only plant of that order in our *Materia Medica* excepting *Berberis vulgaris*. The root of the plant only is used in practice, but the fruit contains all the active principles, as proved by the accidental poisonings which have taken place. According to Dr. Coe, whose book on *Concentrated Medicines* contains the fullest account of this medicine, *Podophyllin* is a compound body made up of a resinoid, an alkaloid, and a neutral substance. In the resinoid principle, besides the emeto-cathartic and cholagogue properties, the alkaloid and neutral contain the diuretic, diaphoretic, and laxative properties, but *not* the emetic.

The alkaloid and neutral principles are very beneficial in modifying the irritating effects of the resinoid principle, and Dr. Coe attributes the excellence of Keith's *Podophyllin* to the fact that it is duly prepared with all three principles, while many other podophyllins sold are simply *resinoids*. How far this is correct I cannot say, but we all know how very superior Keith's tinctures are to the ordinary tinctures, and this he attributes to the fact that they are made with the separate ingredients of the plant and then mixed together in the proportion in which the various substances exist in the plant.

As a proof of the excellence of Keith's concentrated tinc-

tures I need only name *Apocynum cannabinum*; where the ordinary tincture fails this tincture has taken speedy effect in ascites and anasarca. To return to my subject. It is the resinoid principle which causes the irritation of the throat and tongue, so obnoxious to those who have taken *Podophyllin*, and indeed causes such a prejudice against it that its very name is odious to many patients. Coe has experimented on it, and finds that an acrid oil attaches itself to the resinoid and that this is the cause of the irritation. He also finds that if acidity of stomach exists it will not act; hence before he gives his wholesale doses he administers *Carbonate of Soda*, viz. if he suspects acidity. He has proved also that *Lactic acid* is an effectual antidote to its action, while *Acetic acid* does not affect it.

Fifteen grains of the *Podophyllin* have been given and immediately afterwards a draught of sour milk, and the effect of the *Podophyllin* has been *nil*. Sugar antidotes it somewhat, common salt increases its action. I have proved some of these statements myself both on my own person and on patients. I find that by adding five grains of *Carb. soda* to a quarter of a grain of *Podophyllin*, and giving this night and morning, it will begin to manifest its physiological action in two, three, or four days and without any throat or tongue irritation, and generally but not always without griping. I have been amazed at the difference of its action when thus given; the soda diminishes a little the power of the medicine, but compensates greatly by neutralising the acrid oil.

We now turn to the proving of the plant as given in *Jahr*; the proving was made by Dr. Williamson of Philadelphia many years ago, and as you are all familiar with it, I need not detail the various symptoms there given, often (as is usual) most opposite and contradictory ones, and no explanation of the dose with which produced. *Podophyllum* provings may be regarded as synonymous with those of *Podophyllin*.

In Dr. Hale's book we have still more recent provings and cases of poisoning given, from which we see that in large doses it produces the most violent vomiting, hypercatharsis, tormina, stupor and bloating of the body. He states like-

wise that he has been called to treat many painfully severe and incurable diseases of the stomach and bowels, uterus and urinary organs, which could be distinctly traced to overdosing with this potent drug.

Touching the resemblance of *Podophyllin* to *Calomel* of which we hear so much nowadays, doubtless there is some similarity, but there are many contrasts. Here I can only throw out one or two hints on the subject. That it acts like *Mercury* on the liver and all the glandular organs of the body cannot be questioned. The nature of the action is, however, different, as we shall see by-and-by. It does not produce salivation spontaneously. Coe says, in those cases where salivation takes place *Mercury* is previously lodged in the system, and I believe he is right. It does possess the power of dissolving *Mercury*, and that, as with *Kali hydriodicum* and a few other medicines, is a very valuable attribute. It does not produce the painful rheumatism of *Mercury*; its rheumatism is more like rheumatic gout, nor does it act on the bones like *Mercury*. A greater similarity exists between it and *Mercurius corrosivus* than it and *Calomel*, as you will see by the provings. It possesses a similarity but not a profound or extensive similarity with any of the preparations of *Mercury*, and we have yet to learn that it possesses antisyphilitic virtues. To sum up briefly the sphere of action of *Podophyllin*. It may be regarded as acting directly on the liver and whole portal system, producing congestion of that organ as seen by the weight, fulness, pain, and soreness in right hypochondrium, with constipation; on the spleen, by the weight or dragging in the left hypochondrium; on the whole alimentary canal from the mouth to the anus, producing diarrhoeas of all kinds and dysentery; an irritation if not an inflammatory condition of the whole track of the mucous membrane; on the uterus, producing "prolapsus uteri;" on the kidneys causing enuresis and involuntary urine, scanty and frequent urine, suppression of urine; but I regard all these symptoms as connected with its hepatic action. Its thoracic and cerebral symptoms are secondary, and sympathetic with its hepatic symptoms, in my judgment.

Its curative sphere of action, therefore, I regard as the

abdominal, and such affections as arise from or are connected with the abdominal sphere, and their name is legion. I believe it is in that state of liver where deficiency of secretion or depravity or irregularity exists that *Podophyllin* will be found most useful. Cases either of obstinate constipation or alternate constipation and diarrhœa. Its curative sphere of action is different from *Mercury*.

In the disorders of liver attended by constipation, yellow furred tongue, and dark or brown stools, dry bilious temperaments, *Podophyllin* will be found most useful. In liver disorders with diarrhœa, yellow or clay-coloured stools, *Mercury* is most closely indicated. Where constipation exists, as it so often does in liver diseases, *Mercury* needs an adjunct as *Nux* or *Bryonia*, and improvement is accompanied by the return of the natural secretions. In such cases *Podophyllin alone* carefully administered will suffice without any other medicine. I may here state that whilst *Mercury* has its worst symptoms at night, *Podophyllin* has its in the morning.

When we reflect on the importance of the liver in digestion, nutrition and blood formation, and its nervous and vascular connection with the heart and lungs, as well as its direct influence on the brain, we shall see how wide a sphere opens up for the curative action of a medicine which can so thoroughly search its whole tissue, and change its torpidity into liveliness, arouse the sleeping gall bladder to discharge its contents penned up therein for weeks or months.

A very instructive and illustrative case was given us lately in the sudden death in two days of the manager of the Turkish baths, a fine healthy-looking man, aged 66, and active too, seized with vomiting, followed by collapse and death. Post-mortem examination revealed a large gall stone ulcerating its way through to the duodenum, never suspected in life. His only symptoms were occasional indigestion and some urinary difficulties which at his age were so common as not to call for medical aid. He had been subject, however, to attacks of gout. Dr. Hayward who attended him possesses the calculus.

I pass on to the practical part of my paper, noting, first,

that the cases recorded in our journals of *Podophyllin* have obviously been those of hepatic derangement, bilious affections, diarrhœa, dysentery, hæmorrhoids, prolapsus ani and uteri, in which cases *Podophyllin* has proved directly homœopathic, but the class of cases to which I shall refer come under the sympathetic affections, in which its direct specific action is not so obvious, but in which its pathological relationship to the origin of the disease has been fully proved, and in which, while its action is indirect, is not less certainly curative.

To some of these I shall refer, viz. bilious and rheumatic headaches, gout, erysipelas, spasmodic and bronchial asthma, and chronic bronchitis. Now, in all these diseases the indication for *Podophyllin* is the coexistence of torpidity of the liver, indicated by constipation or diarrhœa, alternating with constipation, depression of spirits, and irritability of temper, and that malaise which gouty patients are wont to feel prior to an attack ; and lastly, but specially, the colour and condition of the urine. If the urine is dark coloured and defective, or full of lithates, it is an indication for *Podophyllin*.

First let us speak of gout. Prior to an attack of gout, in nine cases out of ten, there will be found defective secretion of the skin, or of the liver, or of the kidneys, and sometimes of all these organs. Doubtless in a few cases no premonitory symptoms show themselves ; the person is bursting with health and hilarity, and the explosion takes place in a fit of gout, but these cases are the exception and not the rule. In persons who are actively engaged in busy life these sudden cases of gout must be combated, in the first instance, by pure specific treatment—*Aconite*, *Pulsatilla*, *Arnica*, or *Colchicum*, as they may be indicated with the usual change of diet ; but as soon as the more acute symptoms have subsided, *Podophyllin* will be found indicated, and may be given night and morning, continuing by day the local specific.

In the other class of cases with premonitory symptoms, I give at once the *Podophyllin* night and morning, and a dose of the more directly gouty medicine midday. And what is the result ? Why, that the attack is warded off, and much time and suffering saved to the patient.

Three years ago a gentleman came to me whose family I was in the habit of attending, aged forty-five. He had a decided attack of gout for the first time; I treated it with *Aconite* and *Pulsatilla* for two or three days, then went to *Podophyllin*, knowing him to be of a bilious temperament. He speedily recovered, and has never had an attack since. Whenever threatened he betakes himself to *Podophyllin* and *Pulsatilla*, and is soon right; and not only does he keep himself well, but has cured several "fellows on Change," who were allopathic, by the same medicines.

This is a sample of many cases which I need not repeat, for there is great similarity between them, and I have paid special attention to this class of disease, being myself a sufferer, and have warded off attacks even when the skin of the toes had become red by taking this medicine. I can, therefore, speak confidently of its power; I believe that with its aid, and a moderate amount of care in diet, attacks may be kept off, and their tendency to recur perhaps be eventually destroyed. But of this we want fuller proofs; and I shall be glad if the members of this society can confirm this opinion by their practical experience.

Case of rheumatic gout. Three months ago, a gentleman, aged fifty, came from London to visit his friends in Liverpool, had felt poorly before leaving, but thought a change might set him to rights. However, it proved the reverse, for after dining in a room without a fire, he was seized with shivering, pain in the hips and feet, and in one hand; obliged to go to bed. Found him with pulse not quite 100; dry and hot skin, thickly furred tongue, and some red spots on the points of the fingers; urine highly loaded with lithates. Diagnosed it as rheumatic gout, and looked upon the case as one for *Rhus*; gave *Aconite* and *Rhus* the first three days with benefit; diminution of pains in some parts, fresh pains in others; but constipation and the highly furred tongue continued. Ordered *Podophyllin* A. gr. ij night and morning, and *Rhus* steadily by day; no other medicine. The *Podophyllin* was continued for three days before any great result was seen. Then the tongue began to clean, pains to die away, and he was able to rise from bed and come down

stairs on the eighth day of my attendance, attendance ceasing on the tenth day ; tongue clean, all pains gone ; pulse natural ; appetite restored, and, except debility, nothing to be complained of. This person had an attack of rheumatic fever some years ago, and, since then, has been subject to a cough and occasional spitting of blood. *Query ?* Would such results have been obtained without the *Podophyllin* ? I think they might, but not so speedily.

On January 30th, 1869, a solicitor, æt. 50, consulted me for spasmodic asthma, to which he had been subject for years ; it kept him in the house for two or three days at a time, his nights being greatly disturbed. The asthma came on in the evening, and continued throughout the night. He could always get relief by burning the nitre paper, but nothing more could be obtained therefrom. He had a red pimply face, nose particularly rubicund, but was perfectly temperate and regular in his habits ; was subject to neuralgia, and, in addition, had varicocele, altogether a very unpromising combination. I prescribed *Ipec.* and *Colchicum*, believing that it might have a gouty origin ; found benefit from these medicines for a time, but it returned. Prescribed *Kali bich* B. but with little good ; then *Stannum*. Observing his eyes were yellow, I thought of *Podophyllin* and gave him *Podophyllin* A. with *Pulsatilla*. He improved under these medicines so much that he told me he had not to stay a day at home throughout the whole winter following his spring and summer treatment, and he attributes this mainly to the *Podophyllin* action improving the liver condition.

In November, 1871, called to a case of bronchial asthma in a man thirty-three years of age. He was suffering very much, and always did so when he caught cold. His cachectic appearance indicated disorder of the liver, or spleen, or both. Gave from the symptoms *Kali bichrom.* and *Ipecac.* ; these medicines relieved for the time, but the administration of *Podophyllin* A. night and morning completely removed the bronchial attacks. The condition, however, of the spleen was unchanged, and also of the liver, which, several months afterwards was found enlarged, and after a course of

hydropathic treatment ascites and anasarca supervened and death. I quote this case not as one of permanent cure, but, as far as the bronchial and asthmatic attacks were concerned, they were cured and did not return. It also shows us what *Podophyllin* cannot do; it cannot cure organic disease of the liver.

Chronic Bronchitis.

An old lady, nearly 70 years, has had an attack of bronchitis for years—in the winter or early spring—recovers in the summer, but is sure to have a renewed attack the following winter. Suffered greatly from hepatic spasms several years ago, said to be from the passage of gall-stones, but that occurred before the time of my attendance; cannot, therefore, state particulars. She had a very bad attack of bronchitis in the spring of 1871, which left her with anasarca. In this attack—which was very distressing—in addition to the ordinary medicines I gave her *Podophyllin* occasionally and always with benefit, and by dint of that and *Lycopodium* 12 she not only lost all bronchial affections, but the swellings of the legs disappeared and she passed through the whole winter of 1871-72 without needing a doctor. This winter she has become decidedly dropsical and it threatens to be fatal.

A stout lady, 71 years old, had an attack of bronchitis in January, 1871. Is subject to a winter cough, which shakes her; is constipated, and obliged frequently to take aperients. I treated her with *Merc. solubilis* and *Bryonia* 1 with some effect, but saw that the progress was slow and not very satisfactory. Prescribed *Podophyllin* A. night and morning until it acted on the bowels, then stopped it; great benefit followed and she then, for the first time, said she had falling of the womb and that it was greatly better for the medicine.

As I have referred to prolapsus uteri I may here incidentally give a brief account of a uterine case that came under my notice two months ago.

An American lady, æt. 33 years, unmarried; ill for sixteen years. She was brought to me by a friend. She

is stated, by the New York doctors, to have ante-version. Has constant leucorrhœa without pain ; irritable condition of the bladder causing frequent urination. Is melancholic and occasionally has fits of depression, followed by high spirits and a peculiar perspiration in the arm-pits offensive to herself. There is insanity in her family ; has a sallow complexion, constipation, and great sleeplessness. Did not examine uterus, as the general health appeared first to demand attention. Was led to prescribe *Mercurius* and *Hyoscyamus*, subsequently *Rhus*, but not making much progress, in two or three weeks I gave her *Podophyllin* A. gr. 1, night and morning ; this had a good effect on the liver and spirits. I repeated it after an interval of three days, giving *Kreasote* in the interval. Was at my house on Thursday last, reports herself greatly improved. Able to walk five miles. No leucorrhœa ; but if she leaves off *Podophyllin* for many days it returns, and I quote this case more to show that *Podophyllum* has a curative action on the uterine condition as well as on the purely hepatic symptoms.

It is so common to meet with bilious affections that we seldom take much note of them ; and, indeed, Dr. Hughes has written in the *British Journal* an article on their treatment by *Podophyllin*, so that it is unnecessary for me to swell this paper by noticing them, only that I may mention that I have had very decided success in the treatment of jaundice by this medicine when it had returned again and again after *Mercurius* and *China*, and I have every reason to believe that attacks have been warded off by its timely use. As regards bilious and sick headaches I shall only quote two cases.

Miss B—, æt. 35, bilious temperament, keeps a little boys' school. For years has been subject to violent headaches, which prostrate her for twenty-four or thirty-six hours ; they generally end in vomiting of bile, but not always. Prescribed *Merc. sol.* and *Gelseminum*. She soon afterwards had an attack of rheumatic or gouty inflammation in knees, ankles, and feet, which yielded to the usual remedies, *Acon.*, *Bry.*, and *Puls.* On inquiring or

rather watching for her headaches she said, "I never have a headache when I have anything else the matter with me." Gave her *Podophyllin* A. night and morning, and *Pulsatilla* 3 at 4 p.m. daily, and the effects have been very satisfactory. Before this time I had given *Puls.* 3, *Sulph.* 12, without effect. *Gelsemium* relieved the pain of the attacks. This headache I regard as of gouty or hepatic character. Recently I have been called in to her sister, a married lady, about 48 years. Catamenia have ceased. Has had a large family, takes violent headaches about once a week; characteristics of them are pressing pain across the root of the nose, and are always followed by involuntary weeping. She had been taking *Gelsemium* by her sister's recommendation. No symptoms of biliousness whatever; bowels regular as a clock. I thought at once of *Ignatia* and gave it, and at first it relieved, but the next attack came at the same interval and no relief was obtained from *Ignatia*. I found on inquiry that there were pains in back, shoulder-blade, and what she called neuralgia on top of right shoulder. Gave her *Podophyllin* A. and cautioned her against its action, that if severe she must desist at once. To take *Gelsemium* midday. She passed her last week without an attack, which she had not done for six weeks. Take this case only for what it is worth.

The next case is that of a dissenting minister, the Rev. C. B—, æt. 38, nervo-bilious temperament. Came to me respecting a sore throat which frightened him as he had been attending a case of diphtheria. It turned out a case of fear only; but on inquiring as to his previous health, he states that all his life he has been subject to bilious headaches if over-excited, or if he over-walks himself. That these headaches manifest themselves by a burning pain at the top of the head and over the forehead, and last for twenty-four hours if left to themselves, and that if very bad they end in vomiting. That his urine is pale during the attack, and when they pass off it returns to its natural colour; and that he passes a good deal of bile the day after the attacks. During the last six months, by the advice of a brother minister, he takes the mother tincture

of *Podophyllum* during an attack, one or two drops every hour. He finds the attacks pass off now in six or seven hours instead of lasting twenty-four hours, and this without any action on the bowels or any sickness, proving the pure homœopathic action of the medicine. Next day he has the usual action of the bowels, perhaps a little more relaxed than usual, but nothing more.

I have quoted this case because he is a highly intelligent man and noted the above particulars with discrimination. As it is in the preventive stage rather than the directly curative that my experience lies, I was glad of this information.

Lastly, I will now quote a case which shows both the good and the evil of *Podophyllin*.

Mr. K—, a scientific instrument maker, æt. 58, came to my house on October 17th for first time. Has suffered for upwards of ten years from bronchial asthma, the asthmatic attacks coming on at any time without any obvious cause or reason. At present is wheezing, and has a violent spasmodic morning cough, which is his present greatest trouble. Sleeps badly. Pulse not quick; tongue covered with a thick yellow fur. The peculiarity of his case is this—the last severe winter we had he was out at nights frequently, visiting one or two sick friends. "It was the best winter he had passed for years," so that weather does not much affect him. Bowels quite regular, and urine clear and copious. Although there was an absence of the constipation here, still I thought the state of tongue indicated *Podophyllin*, and I gave A. night and morning, and *Arsenicum* 3 by day. He went on for six days, when he again appeared. Reported that the medicine began to purge him at the end of six days. Symptoms a little better. Gave now *Merc. sol.* and *Ipec.* In two days was sent for to see him, found him suffering great pain from the anterior part of the chest—right side, through to the shoulder-blade. Great muscular pain in the right side of the chest. Examined and could not find anything wrong either with the lungs or pleura; diagnosed it as a case of pleurodynia and treated it with *Bryonia* and

Gelsemium, and with happy effect. In two or three days he was up and out as usual, and came to my house as heretofore.

Nov. 4th.—Says he is greatly better in all respects. The violent morning cough is a 'thing of the past;' sleeps better, but has a little night cough. A fortnight later, not being so well, I again gave *Podophyllin*, but this time the 3rd decimal instead of the 1st. It began before three days to take effect on the bowels, and to cause a return of the former pleuritic stitches, and of course I left it off. Here I have no doubt the *Podophyllin* produced its physiological action in the first instance with the $\frac{1}{3}$ th of a grain, and in the second instance with the 500th part of a grain; and whilst a proof of its power is given to us, the difficulty of obtaining its curative without its poisonous action is shown; in other words, its purely homœopathic action.

I know of only one other case where similar symptoms have been produced, and I am now very cautious about the time of its administration, and warn the patients to discontinue it the moment it purges; but they are so pleased with this effect that they sometimes violate the orders. I believe it is just at this point where the curative effects are most striking, viz. on the verge of the physiological action.

Inferences drawn from the foregoing and other facts.

1st. That *Podophyllin* is a very active and penetrating medicine, resembling *Calomel* in its specific action on the liver and glandular system, but beyond that the similarity ceases.

2nd. That its direct sphere of action is the whole portal system, and indirectly all other systems connected with that either by nervous or vascular ties.

3rd. That while the liver and gall bladder are directly acted upon by this medicine specifically, and led by it to discharge their contents, great relief is given to the lungs and the brain when oppression of these vital organs is connected with inactive and irregular action of the liver.

4th. That torpidity of liver rather than vascular congestion is the chief sphere of *Podophyllin*; in other words, a non-secretory state, or a state of non-expulsion of the secretion of bile, is the indication for *Podophyllin*, and this state is indicated by sallow complexion, furred tongue, and constipation.

5th. That the curative dose in such cases must be brought near to the physiological, viz. the 10th, 5th, or 4th of a grain given once, or at the utmost twice, a day, and immediately arrested if diarrhoea appears.

6th. That the middle dilutions ought to be prescribed for the other diseases in which *Podophyllin* is indicated—diarrhoea, dysentery, prolapsus ani or uteri, &c.

7th. That the diseases in which *Podophyllin* has been found most serviceable by the writer are gout, erysipelas, spasmodic and bronchial asthma, and chronic bronchitis, and in all these diseases only as an intercurrent. (The writer has not had any personal experience of its benefit in syphilis and goitre, and cannot therefore affirm or deny its power in these diseases.)

8th. That *Podophyllin* is not specially indicated in hepatitis, nor in any of the early stages of acute disease, save in the diarrhoea and dysentery, for which it is homœopathic.

9th. That it ought never to be given where a simple aperient is required, as in cases of undigested food, lodgments in the cæcum and colon, &c. Its use should be restricted to liver constipation.

Lastly, while a specific has been defined by Dr. Drysdale as a remedy in which the whole physiological is absorbed into its therapeutical action, there are some exceptions, and this I believe to be one of those where the boundary line between the physiological therapeutic action is not easily defined, and where we are most certain of the therapeutic effects when we touch the physiological sphere.

Discussion on Dr. John Moore's paper.

Dr. BAYES said that his experience, so far as it went, corroborated Dr. Moore's views as to the curative sphere of *Podophyllum* and *Podophyllin*, but was less extensive. He had found the lower triturations and dilutions of the greatest service in sick-headache accompanied by constipation; while the higher dilutions had proved of great use in bilious diarrhœa and chronic looseness of the bowels. Both these effects are well pointed to in Dr. Hughes' *Pharmacodynamics*. The true sphere of *Podophyllin* appears to be in removing venous congestions of the liver and of the pelvic viscera. In a recent case of obstinate constipation, occurring in a young woman who was subject to frequent and severe headaches, he (Dr. Bayes) had seen the headaches and the chronic constipation both cured by two doses of *Podophyllin*, a quarter of a grain given each night. Ever since the second day regular daily action has continued (now for seven weeks), and there has been no return of the headache. In the case of an elderly lady suffering also from constipation and abdominal venous congestion *Podophyllin* 1 had cured both conditions. His (Dr. Bayes') practice, in these cases, is to give a dose of *Podophyllin* every night for three nights (unless the bowels act freely earlier), but then to cease and only to repeat the course after three or four days if rendered needful by recurring constipation. In this way no unpleasant results have succeeded, and purging and pain have been avoided. In both the cases above named other homœopathic remedies had been tried without good result. His (Dr. Bayes') experience leads him to place reliance on *Podophyllin* in a low dilution in those cases where the prominent symptom is abdominal congestion (venosity), causing uterine troubles, constipation, and headache in females, and in men headaches, constipation, and sometimes varicocele.

Dr. HALE said that, although what he had to remark might seem ungracious and ungrateful to Dr. Moore, who had taken the trouble of writing the paper just read, he was obliged to be at issue with the conclusions to which the paper led. The result of the treatment of the cases appeared more the effect of intercurrent remedies than that of *Podophyllin*, which he looked upon more in the light of an allopathic aperient than a truly homœopathic remedy. *Podophyllin* took the place of *Castor oil* and was found a more efficacious auxiliary. Dr. Moore was justified in prescribing it, but, inasmuch as its action in the cases quoted was clearly pathogenetic, it was incorrect to instance them as having been treated homœopathically, as far as *Podophyllin* was concerned. In nearly all the cases the action of *Podophyllin* was simply purgative, and therefore not homœo-

pathic. In the cases mentioned by Dr. Bayes the remedy had been administered according to the homœopathic law,—not so in Dr. Moore's cases. Dr. Hale had found *Podophyllum* 3^r useful in cases of hepatic and intestinal congestion. An interesting subject connected with *Podophyllum* mentioned in Dr. Richard Hughes' *Therapeutics* was the supposed action of the drug upon the small intestines, the *jejunum* and *ilium*; and had Dr. Moore investigated the action of *Podophyllum* upon these portions of the intestinal canal he would have contributed most valuable information. Dr. Hale, in conclusion, said that, with a few exceptions, his namesake's new American remedies had disappointed him; whether this arose from his failing to interpret the provings, such as they were, or not he could not say.

Dr. R. HUGHES said that he felt very strongly with Dr. Hale in the remarks he had made. He was the last man to refuse any piece of useful practice because it did not square with a particular theory. But he could not forget that this was the British Homœopathic Society, and that we met as adherents and carriers-out of the principle *similia similibus*. It seemed to him that all contributions read at such meetings should either be illustrations and confirmations of our law; or, if exceptions thereto, should be put forth as such, and upon grounds shown. Dr. Moore's paper entirely ignores such a position. The practice he advocates and exemplifies may be good, but it has not an iota of homœopathy in it. *Podophyllum* is used by him as a cholagogue purgative, and we hear accordingly of its "acting on" the liver, and being "contra-indicated" when the organ is already irritated, just as in our allopathic days. Yet no admission is made of the character of this proceeding, and no argument advanced to show its necessity, in consequence of the weakness of homœopathy at this point. On the contrary, Dr. Moore refers to Jahr's pathogenesis, and cites Dr. Yeldham's rule of dose and Dr. Drysdale's definition of a specific as if they had anything to do with such a use of a drug as that which he advocates. The question we have to ask ourselves is, Is the administration of a cholagogue purgative sometimes necessary, pure homœopathic treatment being insufficient? It may be so, but he thought that we should very fully test the latter before resorting to the former. We owed a duty to our method as well as to our patients, and should not lightly abandon it. He himself had hardly ever used *Podophyllum* after Dr. Moore's manner, but he had every confidence in it when applied in accordance with the law of similars. We had very little knowledge of its physiological action, Jahr's pathogenesis of it deserving as much as his others the name of "nonsense made difficult." But so far as we knew it, its use in acute irritation of the small intestines (as in cholera infantum), in rectal dysentery with prolapsus ani, and in acute "bilious attacks," had given him every satisfaction.

Dr. MASSY viewed the cases recorded by Dr. Moore true as speci-

mens of the general run of practice, but not cases especially selected and treated to exhibit the value of *one* remedy. Here there were two or three other valuable medicines prescribed. He gave *Podophyllin* 3x in a recent case of obstruction in the liver of an old Indian lady without much benefit. On the following day, as the lady's chief desire was to have the bowels moved, he ordered the 1x, two grains in four doses, without any result. This disappointment might not have occurred had *Podophyllum* ϕ been prescribed. However, on Dr. Moore's recommendation, Dr. Massy shall feel hopeful in testing *Podophyllum* in a very obstinate case of bronchial asthma now under his care.

Dr. DUNGEON was some years ago called up in the middle of the night to see an elderly lady who had sent for him thinking she had cholera. There was vomiting and purging to a great extent. The skin was cold and clammy, the pulse almost imperceptible, she had violent pains in the bowels, and cramps in the legs. It certainly looked very like a case of cholera. On inquiring if she had been taking anything she said that she had lately seen in an omnibus an advertisement of "podophyllin pills, the vegetable mercury, a mild, safe, and certain remedy for biliousness." Being bilious, as she thought, she bought a box of these pills, and had taken one that night before going to bed, and had been disturbed by the symptoms he now saw. He was able to assure her that this was medicinal action and not Asiatic cholera as she supposed, and, in fact, she recovered very rapidly. Since then he has generally used *Podophyllum* in cases of very painful diarrhoea. He had also used it successfully in cases of prolapsus ani occurring in the course of dysenteric diarrhoea, especially in children. He had seen it in doses no stronger than the 1st centesimal dilution produce speedy evacuation of the bowels in cases of constipation dependent on functional liver complaint.

Mr. HARRIS said that, while he entirely agreed with Dr. Hughes' protest as to the character of the paper, he would like to mention a case that in its result rather confirmed part of Dr. Moore's experience. The patient, a woman forty-five years of age, subject to occasional dyspepsia, was attacked with acute burning pain in the region of the pyloric orifice of the stomach with violent retching and vomiting of bile, and belching of wind, bowels confined, motions healthy (no sign of gall stones). After the attacks, which recurred sometimes twice or thrice a day, had ceased she was left prostrate, slightly jaundiced, with a persistent tenderness to touch in one spot corresponding to the entrance of the common cholealic duct into the duodenum. Several medicines were given with good results, but most benefit was derived from drop doses of *Podophyllum*, mother tincture. The attacks, however, continued to recur but with less severity, and a pill containing one grain of *Podophyllin* was ordered for two nights in succession. After that she had no return and quite recovered.

In its truer homœopathic sphere he had obtained good results in prolapsus ani of children, in diarrhœa during dentition, when stools resembled "dirty water," and were accompanied by the common symptom of sleeping with the eyes partly closed, and in adults in diarrhœa, with similar stools coming on immediately on rising in the morning.

Dr. LEADAM thought the observations of Dr. Moore were very carefully made in the different cases brought under notice, and the distinctions very clearly brought out in which the remedy (*Podophyllin*) was efficacious, but he has not had great experience in the use of this remedy, because some long time ago he had tried it on several occasions and found the objections to its use so prominent, some of them indeed referred to in this paper, that he had entirely given up the use of it. If given in the third attenuation he thought it might be serviceable in many cases and manageable, but in the first it was nasty, crude, uncertain, and often violent in its effects, partaking more of the allopathic action of the drug than of the homœopathic. He quite understood the action of it in cases of congestion of the uterus and prolapsus where the portal circulation was engorged, and its effects were experienced in the hæmorrhoidal and uterine veins, causing fulness and weight and distension along the whole tract, but a low dilution of *Sulphur*, one or three in trituration, would accomplish the same purpose without the disagreeable and unhomœopathic effect of the *Podophyllin*. He has restricted himself from that time to the use of third dilution of *Podophyllum*, which he had found eminently useful in congestion of the mucous membrane of the bowels, in protrusion of the bowels, and imperfect defæcation, but he would now try the *Podophyllin* again in the third attenuation.

Dr. DEURY regretted that he had been unable to give the attention he wished to the reading of the paper, as his duties as secretary rather interfered with his so doing. Happily for himself he had been in ignorance of what Dr. R. Hughes now stated as to Jahr's sources of information. His experience would lead him to think that Jahr was correct, for he found in practice that his leading indications were trustworthy. The cases in which he chiefly relied on *Podophyllum*, which he had used in different potencies, number twelve and others, were diarrhœa of children with white stools, in prolapsus uteri, and prolapsus ani. He had no doubt that *Podophyllum* in the form of 1x trituration was a medicine that might be of use in some affections of the liver, and if it were homœopathically indicated might in some cases give a help where the more diluted dose would be less effective. Certainly, if a help could be gained by the tenth of a grain in some of these varying cases of constipation that caused so much annoyance to doctor and patient, it was not wise to exclude ourselves from a remedy that it might be for the good of our patient to employ. At the same time he was disposed to join in the expres-

sion of opinion that Dr. Moore's cases were too dependent on an action that could hardly be called homœopathic. Credit had been claimed for the use of this drug in bronchial asthma, but as dyspepsia so frequently attended asthma it was more than probable that the action of *Podophyllin* in such a case was curative not by any action that was homœopathic to asthma, but rather by its direct effect on the liver.

Dr. MOORE, writing in reply, said,—In the first place I have to state that I wrote to the secretary on the day of the meeting *anticipating the very criticisms* which have been made upon my paper. They do not therefore take me by surprise. In my letter I acknowledged the one-sidedness of the paper, as it comprised only hepatic cases and such diseases as I believed to have a close connection with the functional affections of the liver, such affections being characterised by inaction of that organ, and having *constipation* as one of the most predominant symptoms; and these cases I had treated with the low potencies, as low as the tenth, fifth, or fourth of a grain of the pure substance. I added that if treating other diseases for which *Podophyllin* is indicated, as its diarrhœas, dysenteries, &c., I should use the third, sixth, or even the twelfth dilution, but my practice was not sufficient in such cases to enable me to form a judgment. I cordially believe, however, in the cures reported of such cases by the above dilutions. *Podophyllin* evidently as seen from the provings produces two very opposite effects, constipation and diarrhœa, and if it will constipate in very small doses, it will purge violently in large ones. I have a strong gouty patient in whom $\frac{1}{4}$ -grain doses *produce constipation*, $\frac{1}{2}$ -grain doses cause a laxative condition. Two objections have been raised which call for special reply. Dr. Hale regards *Podophyllin* as I have given it, as a mere aperient, and asks why do not I give *Castor oil* instead? to which I reply, that if I want a mere aperient I greatly prefer *Castor oil*, but I give *Podophyllin* in the cases referred to for its direct specific action on the liver. The second objection is by Dr. Richard Hughes, and is akin to the first, but more explicit. Dr. Richard Hughes says I use it as a *cholagogue purgative*, and protests against the practice as un-homœopathic, and not coming within the provinces of discussion by a British Homœopathic Society. My answer to Dr. Hughes' objection is as follows:—that I believe the practice in the foregoing cases was quite homœopathic where the doses did not produce *actual* purgation; where they did they were antipathic, and therefore objectionable and unsought. When an old lady, aged seventy-two, takes *Podophyllin*, at nights only, for four days, without any effect whatever, and at the end of that period has a laxative and painless movement of the bowels, I deny that such action can be reasonably called "*cholagogue purgation*." If such a condition resulted after the use of *Mercurius*, *Nux*, or *Lycopodium*, no one would dream of calling it *purgation*, but clearly what I believe it to be, "*healthy reaction resulting*

from the homœopathic stimulant given." I believe Dr. Hughes has taken too limited a view of what constitutes homœopathic action. That action I conceive goes down to the *very root of disease* (the *fons et origo mali*). Disease must begin somewhere, and I believe *Podophyllin* has profound relationships to the *beginnings* of disease, to the laboratory in which or from which so many diseases issue.

NINETY CASES OF SMALLPOX TREATED WITH *BAPTISIA.*

By Dr. EUBULUS WILLIAMS.

WITH REMARKS ON THE SALIENT PROPERTIES OF THIS DRUG,
BY DR. BAYES.

(Read before the British Homœopathic Society.)

Introductory Remarks, by Dr. Bayes.

THE few remarks which I propose to bring under your notice this evening relate to a property of the *Baptisia tinctoria*, the knowledge of which has been arrived at more by clinical observation than by pathogenetic research. Its practical importance is, however, so great in affording us a most useful ally in the treatment of one of the most fatal and perplexing phases of the *febrile state* that I do not hesitate to bring it prominently forward, although it has more to do with clinical medicine than with strict homœopathy. I refer to its great power in combating prostration of vital force. The few pathogenetic symptoms which point to the influence of *Baptisia* in rallying a patient out of extreme prostration are the following:

1. "If given in large doses it causes a very disagreeable prostration of the whole system" (Hale).
2. It induces great painfulness in the sacral region when lying upon it, or in the hips or any other part when lying upon them (Hale).
3. "Pulse at first accelerated, afterwards very low and faint" (Hale).
4. "Gone" empty feeling in the stomach (Hale).

There are many other drugs which produce most of these symptoms when given in large doses, more especially those included in Nos. 1, 3, and 4, which are common to most emetics.

The second symptom alone appears to me to be really peculiar to the *Baptisia*. It differs very widely from the lumbar pain induced by *Rhus*, and from the pains caused by *Arnica*. I know of no other medicine which produces similar pains, and yet how constantly are they met with in the stage of prostration in fevers, the precursors of bed-sores in the sacrum, the hips, or the shoulders.

Where this symptom occurs in the course of a fever or other grave disease we know that the failure of vital power is great, and that the danger of the patient's sinking is imminent; we then insist on a very free use of stimulants and on the administration of as much food as the patient's digestive organs can receive, digest, and assimilate.

But now and then we meet with such cases where the power to swallow or to retain food appears to be lost, in which the oesophagus seems to be paralysed, and the patient cannot get food or even liquids down. What then is our sole resource? Hitherto injections of beef tea and other liquid nutriment per anum; but in some of these extremely adynamic cases the rectum also refuses to retain food, and the patient sinks. Some years since I had just such a case; it was before the use of *Baptisia* was known in this country. A fine, strong, hale man, of about sixty years of age, was seized with gastro-enteric fever. The patient apparently was doing well till the third week, when, owing to a sudden shock to his mind, he got rapidly worse, and was unable to swallow any food whatever. At first we got down a little champagne and Madeira, but in a day or so even this was rejected (not vomited, but simply returned from the throat), and he slowly sank into a fatal syncope conscious to the last. He made every effort to take and retain food, but he was powerless and could not even make the effort of swallowing.

In another case of gastro-enteric fever treated by me in 1866 the same symptoms occurred (I have recorded this

case in the *Monthly Homœopathic Review*). I gave the *Baptisia tinctoria*; ten drops of the mother tincture was mixed in half a pint of water. At first this was applied by means of a camel's hair pencil to the tongue and mouth every ten minutes or quarter of an hour; in two hours the patient was able to swallow a little of the medicine. Teaspoonful doses were now given every hour, followed by a teaspoonful of beef tea. In four hours the patient was not only able to swallow but also to relish some beef tea. From this time recovery took place steadily.

Since this time I have frequently been able to test and verify this experience, *Baptisia* appearing to act very decidedly on the great sympathetic nerve, and to give tone and power to the stomach and its appendages. I have further had the gratification to hear from several of my colleagues a confirmation of this experience in their practice, and it is with no little pleasure that I find in the interesting paper by Dr. Eubulus Williams, which I am about to read to you, that his extended experience fully corroborates this beneficial action of the remedy. "The appetite improved," he says, "and the patients were able and actually did take abundant nourishment." They continued to do this throughout the attack.

There are a few other points mentioned by Dr. Williams in his excellent paper as showing further marked beneficial action of the remedy on other phases of the disease. I shall advert to these at the conclusion of his report, which I will now read.

Ninety Cases of Smallpox treated with Baptisia, by Eubulus Williams, M.D.

"Of all the diseases we are called upon to treat few are regarded with more fear than smallpox, whether considered in its course or its results. The large proportion of fatal cases, the repulsive scars which mar the faces of many who recover, the consecutive diseases frequently left in its train, and last, not least, its contagiousness; all these alike contribute to make it one of the most alarming and dreaded of diseases.

"The beneficial results of vaccination in preventing smallpox, and even when it does not prevent it in modifying its effects, is acknowledged by a very large majority of the profession. The public also, generally, are almost unanimous in their appreciation of Dr. Jenner's discovery ; but unfortunately the faith in vaccination is not absolutely universal, and, arising among the unprotected, epidemics of smallpox occur, overrun whole districts, spread among the partially protected, and fatal cases are by no means unfrequent, especially among the unvaccinated.

"During the epidemic which recently visited this country no less than 500 fatal cases occurred in Norwich alone, and the returns of other large towns show that the proportion of fatal cases among those attacked was exceedingly large.

"This fact serves to show that although much has been learnt with regard to the treatment of variola, there is ample room for further investigation with the view of supplementing the means at present employed for its cure.

"During a professional career extending over forty years a number of cases of variola have come under my observation, and I have devoted much time to the study of the causes of death in those that terminated fatally. A large proportion of these die from extreme prostration, and to prevent this symptom various remedies have from time to time been made use of. My object in the following remarks is to give very briefly the result of some cases recently treated by the internal administration of *Baptisia*.

"It is unnecessary to enter into a discussion on any of the theories of blood-poisoning, or into the precise effect of vaccination, but I will confine myself to the question, how may this prostration which so frequently occurs in these cases be best treated when it does occur, or how can it best be prevented ?

"If my own experience may throw any light upon the subject or induce other members of the profession to add to the information already published, I shall be amply paid for my little labour.

"It would be useless to enlarge on the frequency with

which these symptoms occur in severe cases of variola ; all my professional brethren must be painfully familiar with the symptoms of prostration occurring during this disease. Nor is it necessary to do more than say that at certain stages of the disease the great aim of the physician is to ward off this failure of vital power, and to do so without setting up any other constitutional disturbance.

" During the months of April, May, June, and July of this year, nearly 800 cases of variola came under my care in a large institution of this city ; the earlier cases were treated some with *Tartar emetic* in 3rd decimal and higher potencies, others with *Vaccinia*, and some with *Thuja* ; these earlier cases would bear a fair comparison with the usual average of recoveries ; out of 210 cases, 19 died, or 9 per cent.

" Although this rate of mortality is by no means large, when the ages and the conditions of the patients are taken into consideration, yet I sought for some mode of treatment which should combat the disease more successfully, and I determined to try *Baptisia* from its known power over the adynamic state of typhoid fever. The remaining cases, about 90 in number, were treated with *Baptisia* only, given in the 1st decimal, one drop dose every two to four, six or eight hours, according to the severity of the case. The cases thus treated were not selected, but comprised every case occurring in one department, irrespective of the age of the patient or the severity of the symptoms. I may mention that the ages of the patients varied from 3 to 18 years, and I attribute the absence of any fatal case among the children under 10 years of age to the protective effect of vaccination in their infancy. The ages of the inmates exposed to the contagion of smallpox varied from 3 months to 18 years ; *none took it under 3 years old and not one died from it under 11.*

" One of the conditions of admission to the institution is a copy of the certificate of successful vaccination being furnished. It is to this vaccination I ascribe the complete immunity of the infants and the modified character of the disease in those over 3 and under 11 ; the cases and

proportionate deaths were more frequent as the patients were advancing in the scale of years.

"Throughout the whole epidemic the faces of the patients were covered with a paste of starch and sulphuret of lime (*Hepar*), but as many rubbed this off as fast as it was put on and dried, I had no reason to attribute to this any virtue, since some were marked very severely that recovered from confluent smallpox treated in the earlier months of the epidemic; but during the later, and generally when *Baptisia* was used, the patients were so well and yet careless of their personal appearance that they almost entirely neglected the use of the starch, &c., especially as they had seen very little good apparently arising from it.

"In the cases in which *Baptisia* was used the result was even beyond my expectation. In several confluent cases which threatened to prove speedily fatal the effect of the remedy was very marked, inducing a speedy development of the eruption with corresponding diminution of the constitutional disturbance.

"Nor was this all—the appetite improved, the patients were able to, and actually did, take abundant nourishment, and continued to do this throughout the attack. In many of these the secondary fever was entirely absent, in other cases the disease appeared to be suddenly arrested, but in all the effect was very speedy in improving the general symptoms of the patient. In those that were thus cut short the vesicles seemed to dry up instead of becoming pustular, and there was an entire cessation of all symptoms of illness within a few days after taking the *Baptisia*. Many of the patients recovered their usual spirits and tone, and the symptoms were so mild as not to prevent them moving about; one can only assume that the *Baptisia* must be credited with the great modification of the disease.

"Of those patients who succumbed to the disease in the earlier part of the epidemic the majority died on or about the sixth day of illness, and this was preceded by flattening of the vesicles and a very feeble circulation, but in those cases treated with *Baptisia* there was no evidence of the failure of vital power either on the sixth or any other day.

I believe too that the decomposition of the skin and mucous membrane was much prevented by the use of this drug ; at any rate the usual offensive effluvium was almost entirely absent.

“ In three cases hæmorrhage took place, one bleeding of the nose, and in two the catamenia appeared out of due time and excessive in quantity ; these recovered without an untoward symptom ; now in the earlier cases, when this symptom showed itself the hæmorrhage was speedily followed by death. It may be difficult to account for this, the quantity of blood lost was not sufficient to account for the death, but I regarded it as an epidemic of great nervous depression, which depression was prevented by the *Baptisia*. I may mention that the subjects of this epidemic were all orphans, and that a very large majority had lost one or both parents by phthisis.

“ Under ordinary circumstances, therefore, it was probable the effects of variola would have been more than ordinarily severe both in the immediate results and in the after-marks : none had been re-vaccinated. In the earlier cases it was frequently necessary to administer stimulants, but in those in which *Baptisia* was used there was the absence of the fits of exhaustion, and therefore alcoholic stimulants were less called for. Then as to the loathsome scars produced by variola these were much less than usual, and one of the worst cases treated by *Baptisia* threw off the crust from the face in large continuous pieces, leaving the skin beneath pale, even, and smooth. The absence of irritation of the skin may or may not have been the effect of the *Baptisia*, but I think this medicine, partly, at any rate, caused the crusts to remain unbroken. In two cases only of those treated with *Baptisia* were there any evident scars two months after recovery.

“ How may the beneficial results of the use of *Baptisia* be accounted for? Theories alone are for the most part unsatisfactory, but in smallpox ‘the nervous system is overwhelmed by poison’ (Watson), as in many other adynamic diseases the aim of the physician should therefore be to counteract this tendency to loss of vital power. *Baptisia*

has been proved to possess properties rendering it invaluable in cases of blood-poisoning, as typhoid and typhus fever, and in my experience unusually successful in variola. I hope other members of the profession will find it equally so.

"Few could test its efficacy with better advantage than myself in my recent experience, for not only were there a large number under treatment at the same time, but although in one establishment, and the different modes of treatment took place in separate buildings, the conditions of all the patients were identical; and though it is not well to form deductions from a limited test, there was sufficient success to encourage one greatly.

"In some cases that I have under treatment in private practice the effect was equally encouraging. In a few the patients were so well as to cause the friends to doubt the correctness of the diagnosis, as their experience showed it to be so much less formidable than their expectations had led them to fear."

Concluding Remarks, by Dr. Bayes.

Among the marked symptoms of improvement attributed to the *Baptisia* by Dr. Williams, depending no doubt on its stimulating power over the sympathetic nervous system, and through that system on the arterial and capillary system, are the speedy development of the eruption on the skin, in confluent cases threatening to become speedily fatal from retrocession.

Following this came the power to take food, and then another remarkable point, the "absence of secondary fever" in many of these severe cases.

Dr. Williams points out that some cases appeared to be suddenly cut short, the vesicles drying up and the patients feeling and appearing quite well.

Dr. Williams also points out that in the hæmorrhagic form of smallpox all those cases recovered in which *Baptisia* was given; this too illustrates the power of the drugs over those branches of the sympathetic nerve which supply and control the arterioles and capillaries.

A further advantage derived from the *Baptisia* was that, owing to the "absence of the fits of exhaustion," alcoholic stimulants were far less needed than in cases treated by other remedies.

The absence of deep-pitting and of scars and seams, even in severe cases, when the patients were treated by *Baptisia*, points to the same property of *Baptisia*, viz. its stimulating action on the sympathetic nerves and its consequent control of the distal circulation, so that repair took place rapidly and the secretion of pus was restrained within due limits.

I cannot conclude my remarks without drawing attention to the unusual value of Dr. Eubulus Williams' observations owing to the circumstances surrounding his comparative statistics, viz. that the two classes of cases treated by different drugs were in all other respects treated on the same general principles under the same physician, and the patients were of the same class and treated in the same establishment. Hence the testimony in favour of *Baptisia tinctoria* in averting the worst dangers in cases of smallpox appears to me to be conclusive; I should, however, be inclined to attribute the successful issue of the cases which were treated by *Baptisia* not to any specific action of the remedy, but to its power to avert the worst danger incident to the febrile state, viz. a tendency to sudden prostration and subsequent syncope.

Answers to questions arising during the discussion.

1. How many months did the first series of 210 cases spread over? Five, from January 26th to June 15th.
2. How many months did the second series of 90 cases spread over? Two months, from middle of April to middle of June.
3. How many in each series were between the ages 3 and 11? Of the 210 cases, 25; of the 90, 18.
4. How many between 11 and 18? Of the 210 cases, 185; of the 90, 72.
5. Were the 90 cases as severe in their character at their outset? Yes, certainly; some were more so. It was not simply the end of an epidemic, for many of the 90 cases were

with others of the 210, the *Baptisia* being used in only one division of the establishment.

Discussion on Dr. Bayes' paper.

Mr. ENGALL said that, as the malignancy of a smallpox epidemic became less towards the end of it, so in the cases before them such a thing might have occurred, and as the *Baptisia* had been given at this stage, that which had been attributed to its action might really be due to the violence of the disease having mitigated. Any one who had visited Müller's asylum must be aware that the arrangements of the place and its locality were highly favorable to treatment; that although there were so many children, these were not all located in one building, but in separate ones. As regarded the application to the face, he thought it was not to be commended. Anything which prevented the outlet of the morbid matter (for he supposed it would be admitted that there *was* morbid matter in these cases), and which might repel this, was to be avoided. The best way, he thought, to prevent the pitting was to keep the patient in entire darkness. As medicines he had generally employed *Tart. emetic* and *Mercurius*. The great point, however, in this (as in all other eruptive diseases) was to get the eruption well out. In scarlet fever he did not consider that *Bell.* was always the best remedy; that *Bryonia* or *Sulphur* was better indicated where the eruption did not readily appear; and that the best means of avoiding typhoid symptoms was to get the eruption well developed upon the surface.

Dr. DUDGEON said the paper was disappointing, inasmuch as it did not enter into sufficient detail. He should have liked to have known the proportions of patients of different ages. All had been vaccinated, but if the cases latterly treated had been mostly of the younger patients it was evident that, being more protected, they would have the disease more mildly. Again, in every epidemic the cases occurring in the latter periods of the epidemic were usually much milder than at the onset of the epidemic. The ninety cases treated by *Baptisia* occurred in the latter part of the epidemic. Although *Baptisia* is said to be the remedy for the prostration in febrile diseases, there does not appear from this paper to have been any prostration in the ninety cases treated by it. Is it intended to be inferred that the *Baptisia* prevented the occurrence of prostration? The paper by no means proves that *Baptisia* is a potent remedy in smallpox. He had seen confluent smallpox in a vaccinated patient which left no marks behind, though no particular care had been taken to prevent them.

Dr. RANSFORD thought that the best way of preventing pitting

was to keep the patient's room dark. Pitting does not take place on the body nor on the covered parts, but only on those portions exposed to the light. Dr. Ransford has never used *Baptisia* in smallpox. Scepticism of its remedial properties, merely on account of the epidemic approaching its termination, may apply to any medicine, and we shall be landed in infidelity. He has great and increasing confidence in *Baptisia* in cases where the typhoid symptoms were well marked.

Dr. BAYES said it was a great disadvantage to the Society when the writer of a paper was unable to read it himself, for however much the deputed reader might desire to do justice to the paper there were always a number of particulars which were known only to the writer. He (Dr. Bayes) fully agreed with Mr. Engall and Dr. Dudgeon that several points in the report required a further explanation, and he had no doubt that Dr. Eubulus Williams would gladly append farther particulars as to the age of the patients, and as to the time occupied by the treatment of the first 210 cases and that occupied by the last 90 cases. But he (Dr. Bayes) thought it unfair to infer that, because the 90 cases treated by *Baptisia* were the last in the series, that therefore they were all mild cases, or even that they were milder than the average of the 210 cases which preceded them. It occurred to him, and he would suggest to Mr. Engall, whether it was at all probable that Dr. Williams would have changed his treatment at all if the first 210 cases had progressed so favorably as to satisfy him. Dr. Williams sought a new remedy because the usual routine medicines had not come up to his expectations in their power over the disease and form. The moment he began to give *Baptisia* no further fatal cases occurred. Previously to the use of the *Baptisia* hæmorrhagic cases had proved fatal, but since its use 8 such cases occurred, and they all recovered; in two of these cases hæmorrhage occurred per vaginam (not at the monthly period), and in one epistaxis. He (Dr. Bayes) would wish particularly to observe that *Baptisia* is not to be looked upon as being homœopathic to smallpox. Probably it has no direct relationship to the disease. It is, however, homœopathic to a very frequent and most dangerous complication of the febrile state, no matter whether the fever be a specific or simply a continued fever; he alluded to the stage of prostration, and it is in such cases that *Baptisia* will be found successful whatever the nature of the fever may be. There are still a few points of great interest in this paper bearing chiefly on the preventive power of vaccination. It appears that the protection was complete in all the children under three, that there was no fatal case under eleven, but that after eleven no protection to life was to be relied on absolutely. It is worthy of remark that none of these cases were revaccinated, and that out of 2050 inmates in the institution 300 took the disease, 1750 having been completely protected by the first vaccination. On carefully reviewing the paper he (Dr. Bayes) concluded that

it had proved that *Baptisia* was to be credited with the power of warding off a fatal result even in severe cases of smallpox.

ON AN EPIDEMIC OF RELAPSING FEVER IN ABERDEEN.

By D. DYCE BROWN, M.A., M.D., Aberdeen.

(Read before the British Homœopathic Society.)

IN the following paper I propose to give a sketch of an epidemic of relapsing fever which visited Aberdeen in the summer, autumn, and winter of 1871. As each individual case of disease differs from another in many points, so in epidemics we find that one visitation may differ in several more or less interesting and important points from another, and in observing these points of difference we get a more complete picture of the disease than we should otherwise have. The subject of relapsing fever is at the present time peculiarly interesting and of practical import, as it has of late appeared to a considerable extent in London, and if anything new can be suggested in the treatment of this disease, now is the time to put it to the test.

At the risk of being tedious I shall first give a short sketch of relapsing fever as described in books to have occurred in former years. By this plan I shall be the better able to bring out some points in which the epidemic I am about to describe varied from former epidemics. In doing so I make use of an admirable article by Dr. Warburton Begbie, of Edinburgh, in Russell Reynolds' *System of Medicine*.

Relapsing fever is characterised by the suddenness of its attack. Unlike other fevers, in which there is a stage of incubation, during which the patient feels out of sorts and "all-overish," one who is going to have an attack of relaps-

ing fever may be at his employment in the morning feeling quite well, and by the afternoon be laid down with well-marked symptoms of the complaint. There are usually very distinct, and sometimes severe, rigors, with headache, pain in the back, and loss of strength, though at first the prostration is not great. The feverishness gradually increases, as do also the pains in the limbs and headache. "By the third day there is usually some amount of epigastric tenderness, and not unfrequently vomiting. No general abdominal tenderness, however, presents itself, and diarrhoea is of rare occurrence. A perspiration, marked in character and general on the body, occurs sometimes very early in the disease, on the second or third day, bringing with it little or no relief to the headache and other symptoms." When the fever is at its height the temperature is generally high and the pulse is very rapid, much more rapid than is found in other fevers. At the same time there is usually very slight disturbance about the head, headache frequently, rarely delirium, hepatic and splenic tenderness, with vomiting, great restlessness, thirst, and a white condition of the tongue. In a considerable proportion of the cases a peculiar yellowness of the skin becomes noticeable, best marked in the face, styled by Cormack "facial bronzing," and to this a distinct jaundice, with urgent vomiting, sometimes succeeds. To these symptoms there occurs, usually on the fifth or seventh day, an abrupt cessation. Nothing can be more remarkable than the sudden change—usually ushered in by a profuse perspiration, less frequently by an epistaxis, or other hæmorrhage, or by diarrhoea—effected in the condition of the patient. The frequent pulse and hot skin have in a few hours vanished, there is a normal appearance presented by the tongue, and, as Cormack has described it, "one day we hear the patient moaning and groaning in pain, and on the next he is at ease and cheerful, his only complaint being of hunger and weakness." The condition of apyrexia established, the patient continues to improve, he gains strength, often rapidly, and convalescence appears to be altogether satisfactory, except that the pulse sometimes continues remarkably slow. On or about the

fourteenth day from the commencement of the original attack the relapse takes place; "a second paroxysm of fever occurs exactly resembling the first, although in some cases it is more or less severe than the first. The duration of this relapse is usually three or five days. A third attack may occur, but there is usually only one relapse.

Relapsing fever, properly so called, is undistinguished by cutaneous eruption. A "measly-looking efflorescence" was described by Welsh in 1829 to have occasionally occurred, but these are now believed to have been cases of true typhus, with which the epidemic of relapsing fever that he observed was mixed. Petechiæ, hæmorrhagic spots and vibices, have all been described as having occasionally occurred, while Dr. Merrod in 1847 found an eruption of sudamina of very frequent occurrence. But in this same epidemic, as it occurred in Edinburgh, Dr. Begbie says that sudamina were very rare. The occasional yellowness of the skin has already been noticed, and sometimes true jaundice has been observed. The tongue is generally from the commencement coated with a yellowish or white fur, thick towards the back, but at the point and edges the tongue is clean and redder than usual. Occasionally the urine is much diminished, or altogether suppressed, in which case serious head symptoms, causing death by coma, may occur. Chest complications, such as occur in other fevers, may also occur in relapsing fever; hæmorrhages also have been observed to occur chiefly about the critical period. Local muscular paralysis, and more frequently severe muscular and articular pains, have been observed. Diarrhœa has been frequently observed to take the place of the perspiration as the critical discharge, causing in the former Scotch epidemics an increase in the mortality. Pregnant women attacked by relapsing fever invariably miscarry or abort. Very often a protracted convalescence is the result, with a great deal of bodily weakness. Almost the only post-mortem appearances known are enlargement and softening of the spleen, and a state of engorgement and enlargement of the liver, which latter is best marked in those cases where the yellow skin is best developed.

The average mortality in relapsing fever is 4·75 per cent., or 1 in every 21.

Such is a sketch of the fever as it has been described to have occurred in former epidemics.

The epidemic which occurred in Aberdeen first appeared in July, 1871, and continued gradually to increase till, by the end of the winter, it had almost died out. Some of the very first cases that occurred came under my notice in connection with the dispensary, and the earlier cases differed very much in character from the later ones. It was easy to see at the first attack that the disease which I had to treat was different from any of the usually observed fevers, though it was only when the distinct relapse occurred that I was sure of the diagnosis. In the sketch I gave of the fever as it appeared in former epidemics it was mentioned that diarrhoea was rare, except occasionally as a critical evacuation. The cases, however, that occurred earliest in Aberdeen were characterised at the outset by severe vomiting and diarrhoea. The patients were taken ill suddenly, as is usually the case, with shivering, followed by high fever; and simultaneously with the access of the fever, profuse watery diarrhoea, with watery vomiting, and more or less abdominal tenderness. In these cases the tongue was much cleaner than in the later cases. The presence of this profuse diarrhoea made the diagnosis at first rather doubtful, and I was at first inclined to put them down as a modified form of enteric fever, until the relapse occurred after the seemingly complete recovery of the patient. When the cases became more numerous and spread over the town, although sickness or vomiting was always present to a greater or less extent, diarrhoea ceased to be a symptom of the disease—in fact, constipation was more the rule. Unlike, also, what is usually observed, was the marked and, in some cases, severe delirium, which was observed in several of the cases. This was chiefly observed at night, and along with the headache was in some instances so severe that the friends of the patients were much alarmed.

In some cases the perspiration which usually occurs only as a critical evacuation was present during the whole time

of the fever, even in some of the diarrhoea cases, but, of course, not so profusely as on the critical day. For in these cases the patient was easily able to mark the distinction between the continuous moisture of the febrile stage and the profuse perspiration of the critical day. The pulse was, as is usually the case, very rapid, much more rapid than in any other fever, but we soon found that the rapidity of the pulse was no indication of danger, for in several cases, when the pulse was quickest, the disease was in reality running a very mild course. The temperature was generally high, from 102° to $104\frac{1}{4}^{\circ}$, during the fever, while after the crisis the corresponding fall was remarkable. The thermometer generally sank to below the normal standard, and in one case fell in a few hours from $104\frac{1}{4}^{\circ}$ to 95° . What is usually considered to be a symptom pathognomonic of relapsing fever, the splenic and hepatic enlargement and tenderness, I failed to find in any of the cases; we (that is, the students who were going round with me, and I) carefully examined the abdomen in many of the cases, with the view of eliciting this symptom if present, but we never found it. Nor did I see in any case the yellow colour of skin which has been observed in other epidemics, still less did I meet with any case of jaundice proper. Dr. Begbie in his account already alluded to mentions the occasional occurrence of hæmorrhage in some form occurring at the critical period, and taking the place of the usual perspiration. This I never saw, but during the febrile stage, and unconnected with the crisis, hæmorrhage occurred in two cases, in one of which, taking the form of epistaxis, the hæmorrhage was so profuse that the patient was considerably blanched before it could be stopped, and then only by plugging the nares with lint dipped in the strong solution of *Perchloride of Iron*. This patient also, a young woman, about three months pregnant, aborted after this, and lost a considerable quantity of blood from the uterus.

The critical discharge I never saw take even the form of diarrhoea, but it always consisted in a very profuse perspiration, which left the patient free from fever, with the

pulse often unusually slow, and the temperature, as already remarked, frequently far below normal. This critical perspiration, although stated in the sketch of the fever, as given by Dr. Begbie, to occur on the fifth or seventh day, I invariably found in cases left to themselves as regards medicinal treatment to occur on the seventh day; but I shall have to speak more particularly of this when I come to the treatment, so shall not enter further into it here. The relapse invariably came on, when it did come at all, on the fourteenth day from the commencement of the fever. As to its duration and its occasional non-appearance I think it better to speak afterwards.

Dr. Begbie states that relapsing fever is undistinguished by cutaneous eruption, but that petechiæ, hæmorrhagic spots, and vibices have been described as of occasional occurrence. In this epidemic, however, in almost every case, to a greater or less extent, the skin of the trunk, and even of the arms and legs, was covered with an eruption of minute ecchymoses. Sometimes this has been so thickly scattered over the skin that on the abdomen hardly any healthy skin was visible. This eruption would also appear very suddenly. In one case, when it was most thickly present, it appeared all in one night. After the relapse was over a state of very considerable debility remained, which some patients complained of for long afterwards. Another very troublesome sequela was rheumatoid or neuralgic pains in the joints and limbs, worse at night, keeping those attacked with them from sleep. In two cases also, after the relapse, œdema of both feet occurred, but without any albumen being present in the urine.

My mortality out of about fifty cases, instead of being 1 in 21, amounted to *nil*. The husband of a woman who had the disease very seriously was attacked with it just as she was convalescent, and as the room in which they were was very small and ill-ventilated he went to the hospital, where he died, the case being registered as one of typhoid fever. As to the cause of relapsing fever, the generally entertained opinion is that it is the result of famine and destitution; but although the patients that I saw were all

of the class of dispensary patients (with one exception—a student, who caught the infection from visiting the other cases), yet I could not say that those attacked were worse off or more destitute than the generality of the labouring classes.

Coming now to the treatment, if we can suggest anything likely to be useful, that will be a gain to therapeutics and to the patients, as the old-school treatment is confessedly inert. Begbie says that all medicines tried to shorten the attack or prevent its return have signally failed, the disease running its course in spite of everything. There is, therefore, nothing behind us to which we can look back, and I think that I am not wrong in claiming for the treatment I am going to mention considerable success. In the earlier cases, when the watery diarrhoea and vomiting were present, I gave *Arsenicum*, and found that this signally met those symptoms. When these symptoms were not so severe, and there was simply gastric disturbance, with some diarrhoea along with the fever, I prescribed *Baptisia* 1 every two hours, as the state of the patient, during the attack at least, more resembled typhoid than any other fever. *Aconite* certainly was not of the slightest use.

I know that in giving my impressions of the results of this treatment I will be told, especially by any one opposed to homœopathy, that there is a fallacy in all my cases. The duration of the first attack is, as you will remember, stated by Dr. Begbie to be five or seven days. Now if a patient sweat on the fifth day, I may be told that the paroxysm ended on that day naturally and not as the result of the medicine given, and again the duration of the relapse, Begbie says, “is usually three days, it may extend to five days or even longer, and when unusually mild it may terminate before the third.” But to set against this treatment I carefully watched the natural progress of a good many cases, some of which were purposely not treated at all by medicine, and others were seen too late to draw any conclusion fairly, and I do not recollect one case of those thus allowed to follow their own course where the attack

ended sooner than the seventh day, and in similar cases the relapse nearly always lasted five and sometimes even seven days. Of course I am quite aware that if a case treated with *Baptisia* sweat on the fifth day, it is just possible that it might have ended in the same way without any treatment. But it certainly was my impression and belief that cases thus treated, if seen in time, had the paroxysm mitigated in severity and shortened in duration, compared with others which were allowed to follow their natural course. In at least two cases put under *Bapt.* the sweating occurred on the fourth day, and in more than one case the relapse ended by sweating on the second day.

When the *Baptisia* was given I found that the sweating almost invariably occurred, not on the day following the first administration of it, but on the day but one, so that the earlier in the disease that the patient was seen the better, the chance of early recovery. The *Baptisia*, however, did not succeed in every case, as the fever occasionally went on to the seventh day in spite of the early administration of the medicine. I am sorry, therefore, that I cannot say that the *Baptisia* is a specific for the fever, nor even can I *positively* assert that in the majority of cases it lessens the duration of the paroxysm, as if I did so, for the reasons already stated, I *might* be deceiving myself and mistaking the natural course of the disease for the result of medicinal treatment. I am, therefore, obliged to limit my statement to this, that my impression and belief is decidedly to the effect that *Baptisia* will, if administered sufficiently early, lessen the duration of the paroxysm and relapse, and conduct the patient safely and mildly through it. Even this amount is a gain to medicine, since no other medicine, that I am aware of, will do the same, and the allopaths admit freely that they can do nothing in the way of drug treatment. When it came to the question—Will *Baptisia* prevent the relapse? I must say no; it always failed to do so, and I soon gave up giving it after the paroxysm was over. The allopaths also confess that none of the usual antiperiodics or any other drug will prevent

the relapse, which one must in this case look on as a matter of course.

But there is one drug which I wish to bring under your notice, though I cannot claim it for homœopathy, nor can I claim any credit for the discovery of it. Mr. James Walker, one of the students who was going round with me at the time we had these cases, was himself attacked by the fever, and after the paroxysm had passed off by sweating it occurred to him to try what effect the *Hypo-sulphite of Soda* would have in the way of preventing the onset of the relapse. It was merely taken as an experiment, on account of the statements which had been made from time to time in the medical journals as to the virtues of the hyposulphites in blood-poisonings. Five grains, three times a day, was the dose he took, with the effect of entirely preventing any relapse. This was so new a result to obtain, when formerly it was thought impossible to accomplish it, that I resolved after that to put it to the test in all cases where we had the opportunity. Mr. Walker also observed the cases and the results with me. The conclusion we drew was, that although not infallible in preventing the relapse, it yet did so in a sufficient number of cases to make it a most valuable acquisition to our armamentarium. Though it is not strictly homœopathic, yet I presume no one though practising homœopathy would refuse to give a patient the benefit of the only medicine which has as yet been known to prevent the relapse. The epidemic was half over before Mr. Walker discovered the value of the *Hypo-sulphite of Soda*, so that our opportunities of testing it were more limited than might have been had we known of it earlier; but I am not overstating it when I say that at least twelve or fifteen cases were relieved entirely from the relapse, and were able to return to their work in a few days after the sweating of the first paroxysm was over. I have no hesitation then in recommending a fair trial of this drug in every case. If it fail in one case the patient is none the worse, and he has got the benefit of a medicine which has actually prevented the relapse in a sufficient number of cases to make it well worth the trial in every instance. In

treating the sequelæ of relapsing fever I was much disappointed. The pseudo-rheumatic or neuralgic pains in the limbs were in two cases extremely obstinate and severe. The patients could get no sleep at night for the pains, which were worse than during the day. I tried *Bryonia*, *Sulphur*, *Rhus*, *Arsenic*, *Quinine*, and *Iodide of Potassium*, with not the slightest effect. The pains seemed to subside in time and of themselves. The cases of œdema of the limbs I treated with *Arsenicum* chiefly. There was no albumen in the urine in these cases, one of which occurred in a child about six years of age. I presume that the cause of this œdema was a temporary vaso-motor neurosis of a passive character, whereby the coats of the vessels became so relaxed as to permit the transudation of fluid through the coats. The child already mentioned was a long time in recovering. The *Arsenicum* did not act as I expected, and the little patient recovered, I think, more by time and nourishment than by anything else.

Discussion on Dr. D. Dyce Brown's paper.

Dr. YELDHAM, after thanking the author for his excellent paper, and complimenting him on his zeal in appearing in person to read it to the Society, said he had had no experience in relapsing fever, and could therefore offer no practical observations on the subject. He would merely suggest that as relapsing fever appeared to be—whatever else it might be—an intermittent disease, he would himself, in treating it, give *Quinine*, as being the great periodic remedy for acute periodic diseases, and he thought it a pity Dr. Dyce Brown had not given that medicine, in small yet palpable doses, regardless of what had been done by the allopathic authorities whom he had quoted.

Dr. BAYES said that he was in the same position as the last speaker, and had not seen any cases of relapsing fever. He much doubted whether *Quinine* would influence relapsing fever favorably. He had seen cases of ague apparently cured by large doses of *Quinine*, but where the disease nevertheless again appeared on the eighth day. The symptoms of relapsing fever, and especially the pathological state of congestion of liver and spleen, pointed to the alternate administration of *Nux* and *Ipecacuanha* as being likely to be serviceable. These remedies were found by Fleischman to be of great service in the intermittent fevers round

Vienna, in which gastric disturbance was a marked symptom. It did not appear clear to him, from Dr. Dyce Brown's report, that *Baptisia* had really exerted any specific influence over the disease, nor did any of the homœopathic medicines used. *Hyposulphite of Soda* was the only drug which really dominated the diseased condition.

Dr. WYLD agreed with several other speakers in thinking that *Quinine* might be a useful medicine in relapsing fever, although it had failed in the hands of those giving it in large doses. At the same time, as Dr. D. Brown had given the antiperiodic *Arsenic* very freely, without effectually checking relapses, it might be reasonable to infer that *Quinine* might also fail. The great prevalence of low fevers in the Scottish towns, as compared with London, was a striking fact, depending probably on the difference of soil and food.

Dr. LEADAM acknowledged his want of experience in relapsing fever, except that of the Irish famine fever of twenty to twenty-five years ago he saw a good deal, when very small doses of *Aconite* were most beneficial and successful, with *Bryonia*, and he would be glad to know from Dr. Dyce Brown if he had used *Bryonia* in any stage of the relapsing fever. As there was congestion of the liver and spleen in some of the cases it would be indicated. The *Hyposulphite of Soda* having been used with a view to arrest the relapse, was its successful application due to the *Sulphur* contained in the preparation, or to the *Soda*? He believed it was the *Sulphur* which was the curative agent, as the pyrexial symptoms are indicated in the symptomatology of *Sulphur*, and he should expect the action of *Sulphurous acid* to be as beneficial.

Mr. POPE regarded Dr. Brown's paper as an extremely well-drawn portrait of a disease which few had opportunities of observing. The comparison Dr. Brown had made between the epidemic he had been called upon to meet, and those which had occurred in previous years, was very interesting. It showed how different a disease might be in its manifestations in each epidemic, and consequently how impossible it was to infer the value of a medicine in one epidemic from the results, whether negative or otherwise, which has followed its exhibition in a preceding one. Hence he failed to see that Dr. Brown was altogether justified in placing *Quinine* entirely on one side because Dr. Warburton Begbie, in an epidemic of a few years ago, had seen no good to have resulted from prescribing it; but, at the same time, he thought that the fact that *Quinine* was an antiperiodic was, in itself, no sufficient argument for its use in relapsing fever. *Quinine* was far from being the only antiperiodic drug in our possession; while periodicity in the occurrence of symptoms was only one of the elements to be taken into consideration in treating a periodic fever. We ought, in such a disease, as in all others, to be guided in our choice of a drug-remedy by the

entire group of symptoms presented by our cases. For his part, when listening to Dr. Brown's description of the fever as it occurred in Aberdeen, the proving of *Natrum muriaticum* was brought to his remembrance, and he should have been disposed to have examined the pathogenesis of this drug with such cases under his care. Mr. Pope would like to hear from Dr. Brown whether the source of introduction of this epidemic into Aberdeen could be traced. Such epidemics as have occurred here have very generally been regarded as having been imported from Ireland. He would also ask whether, in the generality of the cases occurring in the town, relapses happened more than once. In severe epidemics there have frequently been two and even three relapses. In the cases referred to by Dr. Brown the relapse appears to have only taken place once. In concluding his remarks, Mr. Pope, while thanking Dr. Brown for his paper, thanked him still more for the excellent service he was in various ways rendering to homœopathic therapeutics in the North of Scotland.

Dr. BROWN, in reply, said that he had not used *Quinine* during the paroxysm, as it had never been found of any use by the allopaths, and from their experience of the benefit of *Quinine* in large doses in intermittent fever, it would have been at least sometimes found of service by them if it were capable of doing any real good. He did mention uræmia (in reply to Dr. Harmar Smith). He had not used *Nux* and *Ipecac.* alternately, but in the severe vomiting he had not found *Ipec.* of any use. He had given it in alternation with *Baptisia*. *Nux* alone failed to relieve the vomiting, in which *Arsenic* did most good. In reply to Dr. Dudgeon, Dr. Brown said, that in the Aberdeen Hospital there were two deaths (he thought) in about forty or fifty cases, one of these being registered as typhoid fever. The fever occurred entirely among the poor. *Bryonia* has not been given during the fever, as it did not seem indicated. Dr. Brown could not explain the action of the *Hyposulphite of Soda*. There was no means of saying where the fever came from. *Natrum mur.* was not given, as it did not appear indicated. The pulse varied from 120 to 140. Dr. Brown thanked the Society for the kind manner in which they had received his paper.

CLINICAL RECORD.

A Few Chronic Cases. By Dr. RICHARD HUGHES.

Arsenicum in Gastralgia.

CASE 1.—ISAAC H—, æt. 44, gardener. This man came to the Dispensary on October 4th, 1872, with the following history:—Twelve months ago he began to suffer from waterbrash. With this there was the usual constrictive pain at the epigastrium. He had some allopathic treatment, but the pain became continual, and the waterbrash was transformed into vomiting of a light yellow tasteless fluid. He grew thin and weak, and could hardly carry on his occupation.

I found him a pale haggard-looking man, with a feeble and slow pulse and flabby tongue. The pain now came in paroxysms of an hour or two's duration; it recurred once or twice on most days. Vomiting occasionally accompanied it, sometimes of the fluid previously mentioned, sometimes of food. The pain was severe and acute, and seemed to go through from the epigastrium to between the shoulders. *Arsenicum*, 3rd dec. trit., a grain night and morning.

October 11th.—He came next week with mingled astonishment and pleasure depicted on his face. He had had no pain or vomiting since beginning the medicine. Repeat.

18th.—The same favourable report, with eyes and mouth still wider open with surprise. *Saccharum lactis*. He took this for a fortnight, had no return of his enemy, and rapidly regained flesh and strength.

CASE 2.—Mrs. B—, æt. (about) 37, tall and slender, consulted me on September 26, 1872, with a very similar history to the above, but spreading over four years instead of one. She had not properly regained her strength after the birth of her last child, when, in the

autumn of 1868, she began to be troubled with waterbrash. It was only occasional, and at intervals of ten days or so, and was always accompanied with constrictive pain at the epigastrium. Then, after a time, the pain became more continuous, extending through to the back; and both of its extremities as it were—front and back—became tender to pressure. This had gone on, in spite of the best homœopathic treatment of all shades, until now, and she had become a weak frail thing, unable to walk fifty yards.

The pain was now paroxysmal, recurring with much regularity at 3 p.m. and 9 p.m. daily. It was referred to the whole epigastric region, and seemed thence to radiate around and within. It gradually increased to its acme, and often ended in vomiting of a fluid which she compared to weak tea. It was always accompanied by a chill, which yielded to heat as the pain subsided, this being sometimes followed by sweat. The pulse was weak; the tongue clean; appetite poor; bowels costive. She had before this enjoyed fair health; but the catamenia had always been too profuse, and she was subject to neuralgia in the face, especially at these times. She now had much leucorrhœa between the periods.

As, under the notion that her sufferings arose from indigestion, she had been stinting herself greatly in diet (though she allowed that taking food never seemed to bring on the pain), I began by ordering a nourishing alimentation, with small quantities of Scotch ale as beverage. Devonshire cream was subsequently added to her diet. For medicine she got *Arsenicum* 12, two drops three times a day.

The improvement was almost immediate. The periodicity of the attacks was broken, and the chill ceased, never to return. She continued the *Ars.* 12 till October 11th, when, the improvement having ceased to progress, and Case 1 having just come before me, I changed the dilution to the 3rd decimal, taken in the same manner. A fresh start was at once made. The pain recurred less and less frequently, and the vomiting hardly ever. Flesh returned and strength increased; the bowels acted regularly, and the appetite was good. The *Arsenicum* was given in rarer doses; and at last, in the early part of December, dropped altogether. Mrs. B— continues at the present time well and fairly strong. The vomiting is quite forgotten, and the pain only gives her a slight reminder when fatigue or fasting reduces the nervous energy.

She took nothing but *Arsenicum* throughout, save a few doses of *Pulsatilla* to relieve ovarian pain at the periods. As far as I have been able to ascertain she had not had this medicine previously, save for a short time from one of her advisers; and of this physician she had said to me that she thought he had done her more good than any other she had consulted.

Diabetes.

Mrs. M—, æt. about 60, had been occasionally under my care for some time past. In the summer of 1870 she lost a sister, and underwent great anxiety and fatigue in nursing her. Soon after this she began to suffer from constipation, which had not troubled her since she had taken to homœopathy, now twenty years or more. With this she had occasional feverishness, restless nights, and dryness of the mouth. I prescribed for these symptoms at various times, but with no very decisive results.

In June, 1872, Mrs. M— had an attack of dysuria, which was relieved by *Cantharis*; but she went away for her summer change hardly sound in the urinary region. During her absence the irritation returned, but then supervened inflammation and pruritus of the pudenda, which relieved somewhat the internal trouble, but was hardly an acceptable change. After the second attack of this kind Mrs. M— wrote to me, detailing her symptoms. I at once suspected sugar in the urine to be their cause, and, as she was away in the country, far from homœopathic advice, urged her to return to Brighton for treatment.

On October 23rd I examined her (morning) urine. The sp. gr. was 1030°, and Moore's test showed abundance of sugar present. The quantity was not excessive, though micturition was very frequent, but there was a copious precipitate of mucus. Great irritation and smarting of the pudenda were present, amounting at times to intense distress, and the patient was much worn and very nervous.

I put her upon a moderately strict diabetic diet (not, however, excluding bread), and gave her *Uranium nitricum* 1, gtt. ij ter die. *Apis*, and subsequently *Caladium*, were also given intercurrently for the local symptoms.

At the end of the first week the sp. gr. had fallen to 1023, but the amount of sugar (as judged of by the depth of colour obtained on boiling with *Liq. potassæ*) remained the same. After a fortnight I found the sp. gr. 1025°; after three weeks the same, and

there was little diminution of sugar. At the same time the local symptoms were steadily though slowly diminishing.

Considering the nervous origin of the disease, I now gave *Phosphoric acid* 1 $\frac{1}{2}$, gtt. ij ter die. Immediate improvement ensued, both in general sense of well-being and in the condition of the urine. At the end of the fourth week the sp. gr. was 1018°, and there was less sugar by about one fourth.

The fifth week, however, did not sustain this progress so far as the urine was concerned. The sp. gr. was 1021°, and the colour on boiling rather deeper. The general and local condition was nevertheless improving steadily. I now returned to the *Uranium*, giving a drop of the 1st dec. dilution three times daily.

Amendment once more began. When it slackened I substituted the *Phosphoric acid*. On one or other of these medicines Mrs. M— continued till Christmas time, when she was so well that she was able to go and stay with a relative in London. The sp. gr. had become normal, the amount of sugar present was very small. All local trouble had ceased, and she had regained flesh and strength, sleep and spirits.

On January 18th I saw her in town. She was continuing excellently well. I obtained a specimen of her urine, and was pleased to find it quite free from sugar. I should have mentioned that since the beginning of December I had set her entirely free as regards diet, save in the matter of sweets.

Rhinorrhœa.

Peter P—, æt. 41, employed at the Railway Works, came to the Dispensary on December 9th, 1872. He said that for three years past he had been troubled with continual "rising" of phlegm in the mouth. It did not come with coughing or hawking, nor with belching or vomiting, but just seemed to flow into the mouth. The quantity was excessive, never less than half a pint, and sometimes as much as a pint in the twenty-four hours. It was semi-fluid—at first yellow, but now white—and of a putrid taste. He was thin and cachectic-looking, very weak too, and not up to work. The pulse was slow and feeble. No night sweats were present. His appetite was bad, and food caused nausea and eructations. He could not account for the malady, the only thing which coincided with its commencement being a hurt on the loins.

I found nothing wrong with the chest, throat, or mouth. The

anterior nares were, however, abnormally dry ; and I could not but fix on the posterior nares as the seat of the flux.

He got *Pulsatilla* to take night and morning—a week of the 12th dilution, a week of the 6th, and two weeks of the third. At the end of this time the discharge had diminished by quite one half; but he was still very weak, and had frequent attacks of frontal headache with giddiness.

China 1, night and morning, was now taken for a month, and at the end of this time the report was “Very little discharge now, and much stronger.” The headache, however, was a good deal complained of; and, considering this to result from implication of the mucous membrane of the frontal sinus, I gave him *Kali hydriodicum* 1². This wound up the case, and on March 10th he discontinued treatment, with nothing left to complain of, and with lively expressions of gratitude for his restoration.

On the Treatment of Lumbago and Rheumatism with Actæa.

Actæa has for some time been known as a useful drug in the treatment of the different varieties of rheumatism, and the following observations were made in order to discover if there was any one symptom or chain of symptoms which indicated its use, as to whether the pain was made worse by heat or cold, increased by rest or motion, or felt most in the day or night. The observations were made on twenty-nine cases of subacute chronic rheumatism and lumbago, and I regret to note that I have not found any one symptom, or combination of symptoms, which pointed out the unfailing utility of the drug; but, at the same time, the effect of the *Actæa* on the above-mentioned diseases was very great. The average age of the patients treated was 39 years 3 months. Out of the twenty-nine cases fourteen were suffering from lumbago, of whom eleven were cured; and fifteen were suffering from chronic and subacute rheumatism, of whom eleven also were cured.

In the twenty-two cases which were cured—

The pain was worse at night in	.	.	.	13
„ „ in the day in	.	.	.	9
„ „ when cold in	.	.	.	6
„ „ when hot in	.	.	.	11
„ „ when resting in	.	.	.	2
„ „ on movement in	.	.	.	20

In the seven cases which received no relief—

The pain was worse at night in	.	.	.	3
" " in the day in	.	.	.	4
" " when cold in	.	.	.	2
" " when hot in	.	.	.	4
" " when resting in	.	.	.	0
" " on movement in	.	.	.	7

The action of *Actæa* in some of the most chronic cases was very marked; it appeared, indeed, to give relief at once.

The following are fair examples of its utility:—

May 27th, 1872.—S. W—, a female, æt. 40, was admitted a patient at the Kensington Dispensary. She has had pains in the loins for six months, which are worse in the day, and on exercise; heat and cold make no difference. She cannot stoop or rise from her chair without great pain. Catamenia regular; urine at times very lightly coloured. Pulse 96, regular. \mathcal{R} *Tinct. Actææ* 3ss, aquæ 3j, ft. haust. ter die sumend.

30th.—Pain is much better than it has been for months; she can stoop with ease. She suffers from some headache from the *Actæa*. Pulse 84, regular.

June 6th.—Pain quite gone, but suffers a little from backache at times.

10th.—Quite well.

June 20th.—R. S—, male, æt. 60, was admitted a patient at the Kensington Dispensary, suffering from pain in the left lumbar region, which was of some weeks' duration. It made its appearance after an accident. The pain was worse at night, when hot, and on movement. Pulse 76, regular. \mathcal{R} *Tinct. Actææ* 3ss, aquæ 3j, ft. haust. ter die, sumend.

24th.—Pain has shifted from the loin to the left hip. Pulse 88, regular.

30th.—Quite well; feels better than he has done for months.

The *Actæa* was administered in the form of a tincture, the dose being 3ss, three times a day, except in the case of two children—H. W— and J. P—, in which the dose was $\mathfrak{m}\mathfrak{x}$ and $\mathfrak{m}\mathfrak{x}\mathfrak{x}$ respectively, increased to $\mathfrak{m}\mathfrak{x}\mathfrak{x}$ and $\mathfrak{m}\mathfrak{x}\mathfrak{x}\mathfrak{x}$. In four cases the dose was increased to 3j, but only one of these cases was relieved.

Unpleasant symptoms caused by the drug were noticed in six cases. They were giddiness, headache, nausea, vomiting, and irregular pulse; these at once ceased on discontinuing drug.

Diminution of pulse has been noticed as one of the effects of *Actæa*, but I have not noticed this to be the case. It is very important to use a freshly prepared tincture, as old preparations lose much of their efficacy.

I have also treated several cases of gout with *Actæa*, but I have not found it of any benefit in these cases.—*Practitioner*, p. 137, March, 1873.

[This is another of the medicines long used by the homœopathic school, though still only imperfectly proved. We have it here not only put forward as an empirical remedy by the allopathic sect, but we see now an attempt to differentiate its sphere of specific activity by the conditions, as is usual in the homœopathic school. Of course no mention is made of the latter here, true to the tactics of Dr. Anstie, who has (we regret to say) degraded his journal to a sectarian one from fear of trades-union persecution. In consequence of this fear of trenching on the principles of the homœopathic school, which is a branch of science tabooed in this sectarian journal, or perhaps from mere ignorance, the author falls into the same blunder as that which prevailed in medicine generally before Hahnemann wrote his *Sources of the Materia Medica*; namely, he endeavours to find out the true specific sphere of this medicine by experiments on the sick alone (*ab usū in morbis*). If he had studied the above treatise by Hahnemann, which is as needful now as then for the bulk of the profession, or if he had even studied Mills' *Logic*, he would not have expected to find out merely *à posteriori* a fact of such importance among a crowd of simultaneously acting influences such as exist in a sick person, and he would, therefore, have escaped the failure which he has to confess. He would have seen, as Hahnemann pointed out, that the only possible method is by experimentation on the healthy. And then, to be sure, although he would thus find out the true physiological specific action, it would not help him till the connection between that and the curative action is discovered—a discovery which the homœopathic principle purports to be. When the above writer on *Actæa* has seen all that, he will begin also to see the use of conditions in the choice of the remedy, and he will also, by that time, appreciate the limitations to which their use is subject and their subordination to the "totality of the symptoms." All which points have been diligently studied and discussed for now two generations in the homœopathic school, and no one can touch the subject without going over the same ground. To ignore what has been done by the homœopathic school is simply to ignore a branch of science and to degrade the pursuit of medicine into mere sectarianism. What shall we say then of those dabblers with homœopathic specific remedies, who only *pretend* to be ignorant of the real source of the medicines they parade almost weekly in the medical periodicals for the sake of gaining a temporary reputation by their cheap plagiarism? How long will the members of a once honorable profession continue to practise this unworthy deceit in craven fear of trades-unionists and booksellers?—EDS.]

MISCELLANEOUS.

The Liverpool Medical Institution and Homœopathy again.

THOSE of our readers who have followed the fortunes of Homœopathy so long may recollect that at the end of 1858 the following resolution was proposed as an addition to the laws of this Institution, viz.—“ But any one practising homœopathy shall be ineligible for election, either as a member of the Institution or as a subscriber to its Library; and any regularly elected member or subscriber subsequently becoming a practitioner of homœopathy shall *ipso facto* cease to be a member of or subscriber to the institution.”

No definition of “homœopathy” was given, and this vagueness materially helped the objects of the proposers. If any one had proposed to exclude *alchemists* from the institution, it would at first sight have seemed ridiculous and improbable that such a resolution could be made part of the laws. But if the Institution contained a number of ignorant trades-unionists, who hated having their repose troubled by the constant progress of *chemistry*, we can understand that if they could only get the latter discredited by confounding it with its antiquated predecessor, they would gladly avail themselves of the pretext to indulge their prejudices.

Now homœopathy, as we understand it, bears no more resemblance to the ridiculous caricature usually described as it is by the trades-union party in medicine, than chemistry does to alchemy. Be this as it may, the bigots on this occasion reckoned without their host, and failed to obtain the requisite majority, for there still existed in the Society a large enough proportion of men who were imbued with philosophical and gentlemanly principles to defeat them, and whose speeches we had great satisfaction in reporting in vol. xvii of this Journal, and which may still be read with profit and pleasure. It required a majority of two thirds to alter the laws, and though not possessing this, still the bigots and trades-unionists had an absolute

majority, and enraged at their defeat, immediately set to work to repair their loss by the common tactics of such persons. They first proceeded to eject from office all the "liberals;" next they sent out to the highways and hedges and induced as many of the tag-rag and bobtail of the profession as they could get to join the Institution, and, we have been told, clubbed together to pay the subscriptions of some to get their presence and votes. These manœuvres were only too successful, and the former vote was reversed, and the law above quoted became part of the laws. The immediate effect of this was that the liberal party fell off in their attendance, and as nearly the whole papers and matter for discussion had been furnished by them, the society languished—for trades-unionists and tag-rag and bobtail do not count for much as supporters of science.

In course of time a new generation has begun to make its appearance, and a revival of interest in the meetings has taken place, and at the same time the disgrace of having such a resolution among the laws is again felt. Accordingly, at the annual meeting this winter the following resolution was brought forward to abrogate the obnoxious law:

"That freedom of opinion being essential to the character of a scientific institution, the clause of the law by which legally qualified medical practitioners are excluded from the benefits of the Institution, be rescinded."

At this stage of the proceedings the whole affair was brought to an abrupt termination by a prearranged scheme. Two of the old inveterate trades-unionists got up and moved and seconded "the previous question" with the object of stopping all further discussion. This was at once agreed to by a majority, and the discussion was immediately brought to a close. That this was evidently a cut-and-dry scheme was shown by an incident. Some one ventured to inquire what was the previous question, and what was the effect of a vote to that effect, whereupon the chairman produced a book on parliamentary proceedings, and proved to his satisfaction that the effect of the vote was as stated.

We trust that Dr. Sinclair and the liberal-minded gentlemen who were prepared to support him will come forward in the same way annually, and there is no doubt that ultimately they will be successful, and purge the society from the disgrace under which it labours at present.

In the meantime we would like to have an explanation of the

manceuvre by which the discussion was stifled. Does not the stifling a debate on the laws by the vote of a majority stultify the rule which prescribes that *change* in the laws can only be made by a majority of two thirds? Surely that cannot mean that a bare majority can prevent a new law from being proposed and discussed. This time also the subject cannot be said to have roused any real feelings of interest on either side, as nothing particular had called the subject into notice, so we hope it will become an annual thing till its importance is fully felt, and the chiefs of the liberal party will not absent themselves as on this occasion. It is certainly not pleasant to be dragged into controversy at the bidding of others. But there are occasions when this becomes a duty. *Noblesse oblige*, and those who testified honorably to the true principles which should govern scientific societies must not think that the battle against trades-union and bigotry is to be fought only once and for all.

Unacknowledged Appropriations from Homœopathy.

ALL who have the slightest acquaintance with the practice of the homœopathic school are aware that for two generations the standard treatment of obstruction of the bowels has been chiefly the administration of *Opium*, *Belladonna*, *Plumbum* or *Nux vomica*, according to circumstances. The two former have also been used by allopathic practitioners as narcotics; but the two latter are, both theoretically and practically, purely homœopathic. On the 13th of January last Dr. Thorowgood detailed to the Medical Society of London a case in which the first three of these medicines were given with success, but he attributes the chief benefit to *Acetate of Lead*, as far as we can understand the somewhat confused report of the *Lancet* of the above date. "The intense twisting pain at first seemed to point to a possible intussusception at the commencement of the trouble. To relieve this *Belladonna* was tried, and this not succeeding, *Acetate of Lead* was added in the hope that, *as lead acts powerfully on the muscular coat of the bowel so as to alter its calibre*, it might in some way aid in untwisting the invagination. One case was mentioned in which *Acetate of Lead* given thus had succeeded in affording relief,

and in the present case, after as much as five grains were given, copious relief followed." In the discussion which followed, Dr. Wiltshire cordially approved of the treatment, and suggested, "but would not *Nux vomica* or *Strychnine* have been very useful in this case?" At the next meeting a Mr. T. Harvey Hill reported a successful case with the above remedies, which he had tried in consequence of Dr. Thorowgood's recommendation, giving him the credit of the discovery. The following letter has also appeared:—

"OBSTRUCTION OF THE BOWELS.

"*To the Editor of THE LANCET.*

"SIR,—In reply to Dr. Hewan's inquiry, as solicited by him in your issue of the 1st inst., I beg to state that to the combination of the two drugs, *Acetate of Lead* and *Extract of Belladonna*, do I attribute the success in a recent case of obstructed bowel. The dose administered consisted of half a grain of *Acetate of Lead* and a quarter of a grain of *Extract of Belladonna* at intervals of about two hours. After the third dose there was appreciable relief of pain and distension, and the fifth dose was followed by a most effectual and copious action, when the remedy was suspended. The obstruction was one of eight days' duration, during which time, as I was informed, all the usual remedies in such cases had been tried without avail. I have since seen the patient, and learn that there has been no omission of that function since. It now remains for me to state that all the credit is due to Dr. Thorowgood, whose paper on the subject of Obstructed Bowel at a previous meeting of the Medical Society of London I had the pleasure and good fortune of hearing.

"I remain, Sir, yours obliged,

"T. HARVEY HILL.

"Stanhope Terrace, Hyde Park Gardens ;

"*March 6th, 1878.*"

—*Lancet*, 7th March, 1873.

What would we think if, in a society of engineers, a couple of wisacres got up and gravely suggested that the lever and the screw were useful in many mechanical processes? And yet the suggestion would be quite as original as the above. It is impossible, by any stretch of charity, to suppose that Dr. Thorowgood and the rest are ignorant of the homœopathic action of these medicines (*i. e.* of *Lead* and *Nux vomica*), or the fact that they are constantly used by the homœopathic school. Dr. Thorowgood is, indeed, an old offender

in plagiarism, to which his past career is a temptation, and we have had our eye upon him for some time. His most notable exploit in this way was the discovery that *Arsenic* was an admirable remedy in gastro-enteritis, characterised by a train of symptoms which no one, however ignorant of pathogenetics, could pretend not to recognise as very like those produced by slow arsenical poisoning. Nevertheless Dr. Thorowgood then, as now, omitted to notice the homœopathicity of the remedy, and passed over the question in profound silence. But it is a question which men of true science cannot possibly ignore and pass over in silence. Are there, then, no such men in the "Medical Society of London," or are they cowed into silence by the terrorism of the trades-union clique which now governs the medical press and the societies? It is surely a deplorable thing that the theory of the action of medicines cannot be discussed with philosophical freedom in the medical societies and the medical press, but that one subject must be ignored and omitted under penalty of personal persecution, which few dare to risk, and that men who are willing otherwise to extend the boundaries of practical knowledge are tempted by their fears to commit injustice and plagiarism.

Let no one say he declines to adopt a sectarian system or pledge himself to infinitesimal doses. We do not adopt or defend any sectarian system, nor infinitesimal doses as a necessary point; but we simply count it dishonorable to ignore and refuse to examine fairly and scientifically the homœopathic theory, by which these very remedies had been discovered to be useful in the above diseases years before we heard of "homœopathy," or, for that matter, of medicine at all. We, and every member said to be of the homœopathic school, were in exactly the same position as Dr. Thorowgood and his consorts. We had the choice whether we would tacitly join in the vilification as fools and quacks of our predecessors, or in addition to plagiarise from them, like Dr. Thorowgood and the numerous tribe of crypto-homœopaths, or, still worse, plagiarise and openly vilify as quacks those from whom he steals, like Dr. Wilks, who, to the shame of the medical schools in London, still remains a teacher of youth. We had that choice, and we chose rather to acknowledge openly the truth which we perceived, and to join those who were working at its practical application. We are content to leave to impartial judgments the decision between us.

Let us be understood. We have no objection whatever to Dr.

Thorowgood's use of *Lead* in ileus, or of *Arsenic* in gastritis; nor do we quarrel with him for making public the success he obtains with them. On the contrary, we rejoice to see such pieces of practice multiplying, and are the last to wish to keep them to ourselves. But we are anxious that the organon by which these good things have been discovered should not be ignored, while its results are appropriated by dribblets. Much, very much time is thus lost; and in the meanwhile we who devote ourselves to its application are barely repairing our losses, and are so absorbed in practice that we find little time or strength for scientific work. Seriously, we dread lest the river be lost in the sands, leaving nothing behind but a few plants which have grown by its waters; and therefore we feel so impatient when we see a man like Dr. Thorowgood, who might do better, acting in this way. Why should he not boldly have said—"I have had some opportunities of seeing how those conversant with homeopathy treat disease. I have no sympathy with their infinitesimals, but I must say that some applications of their *similia similibus* yield excellent practical results. I have already written about the value of *Arsenic* in irritative dyspepsia; and now I have to report a case in which *Lead* did great things in intestinal obstruction. It may be worth trying whether other medicines, prescribed according to this method (of course in sensible doses), produce good effects." We think that such language would ensure him a clearer conscience, and the approbation of those at least whose good opinion is worth having.

Count Mattei's Marvellous Medicines.

WE have received from the indignant relative of a patient affected by cancer of the mamma a strongly expressed communication, containing a narrative of the poor patient's trials and troubles in seeking relief at the fountain head, viz. from Count Mattei himself at Bologna, for her painful affection, at the urgent recommendation of an English physician, who has made himself illustrious (or notorious, as some might be disposed to say) by his enthusiastic advocacy of the Count's nostrums. As might have been anticipated by any one with a judicious amount of scepticism in his mental constitution, the

patient's disease was nowise stayed by the Count's brand-new anti-canceroso, but, on the contrary, after two months' patient trial became so much worse that she was forced to call in a homœopathic doctor.

At Bologna the patient and her companion made careful inquiries about Count Mattei and his treatment, and were actually surprised to find that this prophet also was unhonoured in his own country. They made inquiries respecting the hospital said to have been maintained for twelve years at his own expense by the philanthropic Count, in which 20,000 cases (neither more nor less), as we were informed, were treated—or "cured"—between June, 1865, and October, 1867; if the same ratio of cures was maintained during the twelve years of the hospital's imputed existence, about 100,000 cases must have been "cured," and that would be upwards of 10,000 more than the whole population of the city of Bologna! Well, after careful inquiry they found that "there is no hospital at Bologna, nor has there ever been one of the kind! Some years back Mattei appropriated three beds in his house for the reception of patients, but these have long been discontinued, and there is no evidence that they were ever occupied."

This is the statement of inquirers on the spot, who may perhaps be biassed by the dreadful disappointment they met with after a long, tiresome, and expensive journey, undertaken in winter, at the urgent recommendation of an English advocate of the "marvellous medicines." Of course we are open to receive evidence as to the existence of the Mattei hospital and its 20,000 cures in two years and four months, but after this we shall not, of course, be satisfied with the testimony of the physician to this apparently mythical hospital, Dr. Coli.

BRITISH HOMŒOPATHIC SOCIETY,
7, HARLEY STREET, CAVENDISH SQUARE;

London, February 4th, 1873.

DEAR SIR,—The following letter has been forwarded to the Secretary of the British Homœopathic Pharmaceutical Society, and to some of the chemists who do not belong to that body, but who interested themselves, and gave considerable help when the present

edition of the *Pharmacopœia* was in preparation. In order that it may gain further publicity I shall feel much obliged if you will have the kindness to call attention to it in your next number.

Yours faithfully,

WILLIAM V. DRURY,

Hon. Sec. B. H. Society.

To the Editor of the British Journal of Homœopathy.

[Copy.]

The Pharmacopœia Committee of the British Homœopathic Society have arranged to proceed to the consideration of errors, objections, and suggestions in the present edition so far, in the first instance, as to the end of letter A, p. 84. They will feel very much obliged by any practical remarks you may favour them with, with a view to meet the objections that have been raised to the attempt that was made to secure uniformity in the mother tinctures.

They have under consideration the proposal "That as far as practicable it is desirable that mother tinctures should be the strongest that will keep, and at the same time hold all the active principles of the plant."

They also wish an expression of opinion as to the practicability and advisability of making pilules of a lower attenuation than at present.

Appendix to Dr. Wegner's Paper "On the Influence of Phosphorus on the Organism," at page 63 of this Journal.

"SHOULD any one desire to repeat these experiments for whatever reason, I think it would facilitate his purpose if I give some information as to the dose. The almost homœopathic dose which suffices for the modification of the growth of bone is 0.0015 gramme of *Phosphorus*, once a day, for a half-grown rabbit. Young hens and adult rabbits in which, for example, we wish to study the effect on the formation of callus require double that dose. Dogs and cats are relatively very sensitive to *Phosphorus*. It is advisable, when the experiment is to last over months, in all cases to increase

the dose gradually to double the amount, for the animals become easily accustomed to the poison. When we wish the irritative effects on the stomach and liver, we must begin with quite small doses, and increase them relatively with rapidity. The method of preparing the pills is of great importance for the certainty and uniformity of the results. In the ordinary mode of rubbing up *Phosphorus* into a pill mass, as far as I have observed, you do not get an equal distribution of the small doses into each pill; one generally contains more or less than another. This is shown, apart from the difference of individual susceptibility, by the want of uniformity of my results in the first experiments, especially in irritation of the stomach when it was not to be expected. This ceased entirely when, by the advice of an experienced apothecary, I began to use a formula which secured the greatest uniformity of distribution of the drug; this I would recommend for future experiments, and eventually for therapeutic use in the human subject.

The formula is as follows:—

℞ Phosphori puri	0.03
Redige in pulverem subtilissimum ope syripi	
simpl.	7.5
Culefactis et conquassatis usque ad refrigerationem, adde	
Pulv. rad. Glycirrh.	10.0
Pulv. Gum. Arab.	5.0
Pulv. tragacanth	2.5
M. f. Pil. 200.	

[There seems to be some mistake here. The dose is stated to be 0.0015 gramme, while in the recipe for the pills 0.03 is ordered to be divided into 200 pills. Now $0.03 \div 200 = 0.00015$. Supposing grammes to be meant in the recipe, calculating that at 15 grains the dose would be $0.0015 \times 15 = .00225$, or $\frac{1}{440}$ th of a grain.

The author's expression "an almost homœopathic" dose shows how little the scope of the homœopathic theory is understood even in the land of its birth, unless the expression is used merely conventionally. There is, of course, no homœopathic dose for the proving on the healthy. All doses are required for that which can elicit morbid action on the healthy body, and these experiments of Dr. Wegner constitute a proving such as the homœopathic school receive and desire to see multiplied a thousandfold.

The remarks of Dr. Wegner that the smaller doses long continued and slowly increased were more suitable to develop the changes of nutrition of the bones, while doses more rapidly increased were desirable to produce the irritative effects on the stomach and liver, are important, and harmonise in a general way with the therapeutic experience of the homœopathic school.

Treatment of Pruritus complicating Pregnancy. 383

These observations are also profoundly interesting, inasmuch as they give palpable demonstration of the activity of doses hitherto considered inert by the ordinary school. They serve to explain how it is that apparently inert doses may be acting therapeutically in a powerful manner, and answer the common taunt that a boxful of globules may be swallowed without producing any bad effect; *ergo*, they cannot possibly do any good. Here a grain of *Phosphorus* might easily be taken without appreciable effect by a rabbit in one or two days, while one quarter of the same, if spread over three months in daily doses, will produce hypertrophy of its bones. By the same token the vista of possibilities is opened up whereby it may be discovered that all the apparently inert elements in such doses may act powerfully on nutrition. Given in one or two doses can $\frac{1}{16}$ gr. of *Phosphorus* appear less inert than the same quantity of *Charcoal*, *Silica*, *Sepia*, or *Baryta*? And yet who can say that given with the same care these substances may not act as powerfully on other tissues as the *Phosphorus* does on the bones? As to the therapeutic hints furnished let us note the embarrassment of the experimenter when he finds *Phosphorus* combined with a diet defective in inorganic constituents produces a state like rachitis, and at the same time he recommends the trial of it empirically in that disease. Would it not be better openly and philosophically to discuss whether it may not be tried in its homœopathic relation?—EDS.]

Treatment of Pruritus complicating pregnancy.

The *Bull. Gén. de Ther.*, December, 1868, contains an observation by Dr. Léon Gros, of a certain woman who was tormented during two successive pregnancies by a pruritus of the whole cutaneous surface without eruption. Nervous spasms were brought on by the itching, and the patient's life was rendered miserable. Various treatments were tried, but without producing any effect. At length pyrosis and a dental neuralgia were added to the already existing sufferings, and at this period smoking of tobacco was resorted to with complete and speedy success on both occasions. One cigar was smoked every night, and sleep and comfort returned.—*Med. Press and Circ.*

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The Dublin Journal of Medical Science.

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El Criterio Medico.

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The Calcutta Journal of Medicine.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

ON THE DIFFICULTIES OF CONSTRUCTING A
SYSTEMATIC TREATISE ON HOMŒOPATHIC
THERAPEUTICS.

By J. DRYSDALE, M.D.

FROM the first moment of the discovery of the homœopathic law of specifics the difficulty of blending it with the results of experience in disease so as to make systematic therapeutic treatises or clinical guides has been felt. For there are no specifics for diseases in the nosological sense as was supposed under the old and coarse notion of specifics, whereby any medicine which was discovered by chance to cure a so-called disease had only to be recorded, and thus in process of time we should have an empirical guide to specific therapeutics.

A homœopathic specific is only a medicine which produces certain elementary morbid states on the healthy body by virtue of which it can cure certain pathologically similar morbid states in disease.

As all concrete diseases consist of more or fewer of these elementary morbid states differently combined in different persons, and at different times, it follows that a medicine seldom corresponds homœopathically to the entire concrete

disease, and a different medicine or series of medicines must be required in each individual case nominally of the same disease.

Hence there seems no scope for any help at all from clinical experience. The anecdote of Hahnemann's answer to Fleischmann impresses us with this idea. Before Fleischmann had embraced homœopathy he suffered from sciatica against which all the resources of allopathy had been employed in vain. He applied to Hahnemann by correspondence and was completely cured. Then he requested Hahnemann to tell him the medicines which had proved of such service to him in order that he might give the like relief to others. Hahnemann refused, saying, "if they were homœopathically suitable to any other case they would be found already characterised in the *Materia Medica Pura*; if not, they would be of no use, and so he need not tell them."

This forcibly illustrates the principle that the clinical indications from the actual symptoms in a given cured case are of no value at all unless they correspond to the pure symptoms, in which case they are superfluous.

This is a death-blow to all hopes of finding specific indications *ab usu in morbis*. Let us at once accept this as such as far, at least, as the finer differential diagnosis of the specific action of medicines is concerned.

Hahnemann afterwards modified his original condemnation so far as to admit those records of cured morbid states into his *Materia Medica*, but always under protest, as it were, or *ceteris paribus*, and on condition that the pure symptoms should be referred to for ultimate choice of the medicine.

By this we shall at once escape the errors of the early and crude essays at homœopathic clinical guides. I have already given instances where the so-called indications were merely a copy of the whole symptoms present in a single case which got well under a particular medicine. Is there, then, no use in clinical experience? Yes; mainly for two reasons.—In the first place the groups of symptoms in the *Pure Materia Medica* are so incomplete and often so faintly marked that we can hardly tell, *à priori*, exactly to what

elementary morbid state they belong and of what disease these form an essential part. This may be settled by experience in disease, and thus we get by use in disease the interpretation of the pure symptoms. In the second place, the homœopathic indication is often based more on the general action of the medicine than on the symptoms occurring in the diseased part. Hence it may happen that a medicine may be homœopathic—specifically indicated, while it does not contain a single symptom in the *Materia Medica Pura* locally bearing on the case. A reference here to the pure symptoms of the diseased part would leave us in the lurch.

These two principles may give us a clue to what is particularly required and admissible in the second section of a homœopathic treatise on therapeutics.

To illustrate this let us take a few examples of the so-called clinical indications of individual medicines in one of our best systematic therapeutic treatises, namely, Kafka's. At p. 299 of Vol. II we find the indications for *Belladonna* in rheumatic fever as follows:—"If the inflammatory fever is combined with distinct signs of brain-hyperæmia and nerve erethism, and at the same time the pains are very intense and the joints erysipelatously swollen" (1). "The exacerbation of the fever and the pains late in the afternoon, or the first hours of the night, is also an important indication for this medicine" (2). On this we may remark, that the information conveyed by the words "inflammatory fever," "brain and nerve hyperæmia and erethism," and "erysipelatous," is proper for a clinical guide, so sentence No. 1 would stand. For none of these could or ought to be found in the assemblage of symptoms which should constitute the chapter "Fever" in a *Repertory of the Pure Materia Medica*, and they are also true clinical indications in their own chapters. Again, No. 2 is only partially applicable, because the exacerbation of the fever in the evening is either a pure symptom to be found in the chapter "Fever" in the *Materia Medica* or it is not. In the former case it is either superfluous here, or else you must introduce the time of day of the fever of *all* the other

medicines mentioned in rheumatic fever, otherwise you give a preference to *Belladonna* not warranted by the *Materia Medica*. In the latter it is a symptom derived from *usus in morbo* alone and, therefore, inadmissible.

There is a third category under which it has been proposed to admit each individual symptom, namely, those which are both pure and clinical symptoms, *i. e.* which are pure symptoms confirmed by cure of the case displaying them; but I cannot admit this category, for to begin with it would be chiefly composed of those vague or general symptoms common to a great variety of diseases, and which tell us nothing distinctive or helpful for differential diagnosis. Again, the reference of the curative action to the elementary morbid state underlying any one symptom, if at all distinctive, is open to the same objection to which all specific indications, *ab usu in morbis*, are liable. We do not, in fact, know whether the curative similarity applied to that symptom or to another, or a group of other symptoms not thus singled out,—without this knowledge the cure is thus no confirmation of the particular symptom. Therefore we had better omit this third category.

However, as valuable hints might thus be lost I would propose to admit as notes short notices of individual symptoms thus commented on if by good observers—practical men—not mere compendium makers.

Again, if we admit the time of day of exacerbation as a character of the medicine in this section (except in those rare cases in which it may be a nosological character of the disease, *e. g.*, night blindness), why not admit all other conditions? If so, why not all other symptoms of the medicines bearing on the organ or the disease generally?

We come thus to transcribing the *Materia Medica* of a selected few medicines, a plan which is, in fact, the basis of some therapeutic guides. But even if the bulk of the plan did not forbid this, who is to fix the boundary of what may not bear on the case? and thus we should have to transcribe the whole *Materia Medica*.

It seems, then, better to draw the line at once where a strict principle would induce us, and send the practitioner

back to the *Materia Medica* at once for all the pure symptoms. This is the best plan, for all those expedients to save trouble and induce the practitioner to neglect the study of the *Materia Medica* itself are of no real gain in the long run.

The second clause of No. 2, namely, exacerbation of pain at night, if referring to pains in general, is on a different footing, and may be admissible as belonging to the category of information from different chapters and of a general character. Let us analyse in the same manner *Bryonia* at p. 301. "Joints moderately hot and bright red, fever exacerbated in the night, bland delirium, and great muscular prostration, and status adynamicus (1). Dyspnoea and stitch in chest from pleuritis" (2). As to No. 1 the night exacerbation of fever would be struck out for the reasons given under *Belladonna*. The sentence about the joints also, if it is that which is common to all cases of acute rheumatism. To mention them only under *Bryonia* is to give a false ground of preference for that medicine. The adynamic state with bland delirium and excessive muscular prostration is a proper clinical indication. As to No. 2 the presence of a pleuritic complication is also a proper clinical indication.

If we thus sift our clinical histories we shall, I think, succeed in giving to the busy practitioner really valuable instruction, without misleading him by apparently complete directions, which are not really distinctive, and without diverting his attention from the fact that the *Materia Medica* must be the ultimate arbiter of our choice of the medicines, and must be daily and hourly consulted. There are of course difficulties in forcing the vast array of clinical facts into any systematic arrangement however perfect, but these may, I think, be obviated by the introduction of footnotes of a more desultory character, in which the observations of really practical men may be given in a less rigid and systematic form.

As an instance of the untrustworthiness of the so-called clinical indications in the compendiums of homœopathic practice which are in vogue we may contrast the indications

for *Colchicum* given by Bähr with those of Kafka for the same medicine in rheumatic fever.

"*Colchicum* is quite unsuitable for the true acute rheumatism, but it is excellent in the mixed subacute affections of the joints and muscles, whereby in the former the external parts of the joints suffer exclusively. The fever is not violent but mixed with continual cold thrills, and there is little or no sweating, and the urine is strongly saturated and deposits copious sediment. The painful joints are not swollen or reddened; the pains are greatly increased at night and by motion and touch. The exciting cause was cold damp weather." (Bähr, II, p. 660.)

"An important and most helpful remedy in acute articular rheumatism is *Colchicum* 3, if a general inflammation of the joints is present and the patient is so excessively sensitive that the slightest concussion of the air, the bed, or the floor, is insupportable; if the fever and the pains are exacerbated evening and night, and there is copious sweating and saturated scanty urine with unquenchable thirst; if the large joints, *e.g.* knee, elbow, shoulders, &c., are intensely reddened and hot, while, however, the smaller joints, *e.g.* of fingers and toes, are swollen and stiff, and when most painful they have the sensation predominating as if they were paralysed or asleep; when at the same time from the violence of the fever and the pains the respiration is much quickened and the beat of the heart strengthened, so that a complication of endo- or peri-carditis is to be feared." (Kafka, II, p. 300.)

What are we to conclude from directions such as these which are directly opposed in almost every particular? It is not satisfactory to say that one is quite right and the other all wrong. The probability is that neither has seized on what are properly clinical indications supposing they represent accurately one or more actual cases which got well under *Colchicum*. Or, are we to suppose that they do not represent cured cases at all, but are merely artificial groups cobbled together at the desk from a mixture of clinical symptoms, and the pure symptoms which the compendium-maker thought most likely to be characteristic of

Colchicum ? The latter is probably too often the way in which clinical guides are compiled, and this is probably the reason why these guides have an appearance of completeness as books, but are almost worthless in practice. I think, therefore, in giving a digest of the clinical homœopathic experience we should avoid compendiums and go at once to the original sources, and that we should not attempt to give as clinical indications complete cases, either copies of real cases or imaginary ones filled up with the essential local symptoms of the disease. Our Section II would thus be composed of those general nosological statements which are exclusively clinical, and though it must present a somewhat bald and vague appearance compared with the apparently more complete special indications usually given, it will be trustworthy as far as it goes instead of misleading by an appearance of completeness which is unreal.

Since the above was written I have received the specimen—*Angina pectoris*—of Hering's analytical *Therapie*, and in some respects it may help us with the clinical section of a repertory.

At first sight it would seem as if it gave us in a handy form exactly what we want in this section. But on a closer inspection we find it contravenes Hahnemann's principle, and derives specific indications *ab usu in morbis*, for the individual symptoms are all, except tobacco, said to be taken from cured cases. Although I have not been able to analyse them from the *Materia Medica* it is obvious that many of them are pure symptoms from the *Materia Medica*. Whether they all belong (except tobacco) to the category of both pure and cured symptoms I do not know. But they are open to the objection above made of imperfect and misleading indications, and their tendency is to discourage the use of the *Materia Medica*. That such an analysis should be offered as a desideratum is the best proof of the imperfection of the present repertories of the chapter of the *Materia Medica* in question ; for with the cypher repertory all these symptoms which belong to the part either anatomically or as conditions or concomitants, or refer to the progress of symptoms, would be found at once when presented by the

patient. So in as far as the symptoms are pure they are superfluous.

Nevertheless, the bringing this at once before the reader will find favour with many, and the plan will seem better than it is when only a small specimen of a well-marked disease is chosen as an example, whereas it would really be of enormous bulk, and excessively difficult to use, particularly if applied to the larger and more complicated diseases. For such a number of special symptoms printed close and referring to half the *Materia Medica* would be far more difficult to use as a guide than an explanatory section such as above proposed, and a reference to the *Materia Medica* with a proper repertory, such as the cypher one, by which any symptom can be found within a minute, or you ascertain in that time that the symptom does not exist in the *Materia Medica*. This difficulty is not, however, the main objection, but the imperfect and misleading character of the symptoms so described and arranged. So I would still recommend the text of the homœopathic clinical section to be restricted to clinical information of the above systematic kind, and all else not susceptible of such an arrangement to be as notes. Nevertheless, as there is much that is valuable in Hering's plan the clinical information and notes might as far as possible be arranged as his in Hahnemann's order of parts for easier reference after a portion of text referring in a narrative form to the different stages of the disease. A very careful sifting of indications derived from individual cured symptoms would as above said be necessary, and if properly done this department would not be large, for besides rejecting many the information derived from others would simply amount to entering the name of the medicine in the first section.

For the reasons above given it is desirable that the work should be commenced with those chapters of which a corresponding part of the cypher repertory already exists. It is very unfortunate that the chapter "Generalities" is not yet made, as frequent reference to that is required in all the local chapters.

CASES ILLUSTRATING THE THERAPEUTICAL VALUE OF THE *CUPRUM ACETICUM*.

By JOHN DRUMMOND, L.R.C.P.Ed., M.R.C.S. Lond.

(Read before the Members of the Northern Homœopathic Association, on the
9th May, 1873.)

As an internal medicine the value of *Copper* has not been so fully recognised by the allopathic writers on therapeutics as many of the remedies upon which we rely. They simply describe it as an emetic, a metallic tonic in nervous disorders, and a useful astringent in chronic diarrhœa, when combined with *Opium*. Slender as these indications are to assist in the selection of appropriate cases for the use of this drug, yet they are all which modern allopathic writers furnish, and if it were not for the reliance placed upon it, as an external application, and as the basis of the lotions, ointments, styptics, and caustics for which it is so extensively used, it is very doubtful whether it would retain its position in the Pharmacopœia. Its action as an emetic, notwithstanding Professor Ringer's description "that it is speedy in its operation and mostly effectual," is not so certain or prompt as the *Sulphate of Zinc*, and consequently this salt is usually preferred when the stomach requires emptying of its contents swiftly and surely, as in cases of narcotic poisoning, and Professor Christison says, emphatically, "It is now, however, properly abandoned in favour of the *Sulphate of Zinc*; because the latter is much less unsafe as an irritant poison when the stomach happens to be insensible to the action of emetics and consequently retains them."

Its second action "as a metallic tonic in nervous disorders" depends upon its specific relationship to nervous tissues, which in the presence of disease enables it to brace and give tone to the nervous centres, and in its absence, when given in large and poisonous doses, or in smaller and frequently repeated ones, produces exactly the contrary

effect, and enervates and irritates these tissues. Dr. Pereira, in his description of the medicinal action of this drug, has a glimmering of the truth and existence of this relationship. Without being able to trace the curative laws which Hahnemann has deduced therefrom he says, "The effects produced by the long-continued use of small doses of the preparations of *Copper* have not been determined; they are said to be *various affections of the nervous system*, such as cramps and paralysis. In large quantities, these salts act as poisons, giving rise to gastro-intestinal inflammation and disordering the functions of the nervous system (especially the cerebro-spinal portion), constituting *acute poisoning by Copper*. The usual symptoms are a coppery taste, eructations, violent vomiting and purging, gripping pains and cramps in the legs and thighs, headache, giddiness, convulsions, and insensibility. In some cases the cerebro-spinal symptoms precede those which indicate inflammation of the alimentary canal. In experiments made on animals, it has been observed that death was sometimes produced without any marks of local irritation, the symptoms being those indicative of a disordered condition of the nervous system." And yet he goes on to say, "If the cupreous preparations be used in *very small doses* they sometimes give relief in certain diseases, principally of the nervous system, without obviously disordering their functions; in other words, in these instances the only apparent effect is the modification observed in the morbid action." The true sphere of a specific medicine is to modify morbid action without producing the perturbations or aggravations which it is capable of inducing, and the application of the pathogenetic force, as the curative action of a drug, has obliged us to diminish the doses usually prescribed, and it is interesting to observe that Pereira not only points out the homœopathic law in the above quotation, but he also lays stress upon the very small doses required to arrest morbid action and restore health. Medicines of this class are grouped by Headland as catalytics, and he has made the following interesting remarks upon their peculiar mode of action:—"These

medicines counteract morbid agencies by an operation in the blood. Now the mode of counteraction is not defined, because it is only in a few cases that we can even guess at it. In the majority of instances it seems inexplicable. We know that syphilis is a poison in the blood. *Mercury* is also a poison in the blood. But why does *Mercury* antagonize and annihilate syphilis? The case is the same with scrofula and *Iodine*, with lepra and *Arsenic*. It is very humiliating to be baffled when we have got thus far; when, led by the hand of science, we have been conducted almost to the end of this interesting inquiry, to find that we are perfectly unable to take the last step, and thus to conclude our adventure."

"When there is no disease a catalytic medicine may work out its own action in the blood and produce a disease. But when there is some previous disorder the working of the catalytic may operate so as to counteract this already-existing action, being so far similar to it that it acts in the same department, and may thus occasionally produce by an accident like results; but being nevertheless, as we have seen, essentially contrary to it, because it neutralizes it." (*Action of Medicines*, Headland, 3rd edit., p. 190.)

Many writers have borne testimony to its third use, as an astringent in the treatment of diarrhœa and dysentery, and as they have not recognised the necessity of reducing the dose, to avoid the irritation and exacerbation of the symptoms which arise from its too powerful influence, they have adopted the clumsy expedient of sheathing it with *Opium* to prevent the complication of the symptoms, which their large doses would otherwise occasion. Dr. Copeland, in the appendix at the end of the first volume of the *Dictionary of Medicine*, gives a formula for the "*Pilulæ cupri sulphatis cum opio*," and Sir Thomas Watson, in his lecture on diarrhœa, says, "In extreme cases the *Sulphate of Copper* has been found to have a powerful effect in restraining the flux. It is apt to gripe, and should be combined, therefore, with *Opium*. A quarter of a grain of each; in pill, given three or four times a day, I have frequently found successful when previous attempts to remove

the diarrhœa had failed." In cases of poisoning with the copper salts, the disturbance of the gastro-intestinal mucous membrane is a prominent symptom, manifested in the first stage by the vomiting they induce, and in the second after they have passed the stomach, by the griping and purging during life, and the evidence after death of enteric inflammation and disintegration. The homœopathic relationship to this phase of morbid action is, therefore, clear enough, and can only be overlooked by the wilfully blind, and even these, although they will not directly recognise the homœopathic action of the drug, are compelled to acknowledge that the similarity of the symptoms produced by the drug with those of the disease lead to the inconvenience of an aggravated state of suffering, and to avoid this serious danger, experience has taught them to blunt the sharp edge of the specific medicine they have selected, by surrounding it with *Opium*. If, instead of a quarter of a grain they used the eighth or the tenth, or, perhaps, a smaller dose still, the combination would be no longer needed, the specific medicine would cure, *cito, tuto et jucunde*, and that is all which is needed; and there is no more philosophy in giving *Copper* to produce the gripes, combined with *Opium* to prevent the gripes, in the treatment of an obstinate diarrhœa, than in the sage advice of Ziviani, who prescribed a *mixed* animal and vegetable diet in cases of flatulence, because of his uncertainty which of the two was the more flatulent. Of these three indications for the internal use of the salts of *Copper*, to which allopathic writers confine their attention, the emetic or evacuant action is not reliable, and the remaining two illustrate their homœopathic relationship to the diseases which they are reported to cure.

A more extended study of the pathogenetic effects of these salts by actually proving them upon healthy persons, has widened their sphere of usefulness, and homœopaths enjoy a rich field, which, as yet, remains a *terra incognita* to the Ringers, Wilks, and other modern writers, who have unblushingly transferred to their pages the valuable experiences of the despised sect. These provings and the

clinical observations which have "grown out" of them not only teach us the value of *Copper*, but show that some of the earliest experiences recorded by the older writers on medicine were reliable, and were undeserving of the oblivion into which they have since fallen. The element of uncertainty and doubt is so great in an art founded empirically that its progress must fluctuate; for the valuable experiences of one generation are easily blotted out by the fashions of the next, without they have a central law around which they can cluster, and which will give them some degree of cohesiveness.

After the example of Paracelsus, the internal use of *Copper*, we are told, became more frequent, for he, as the Paracelsists held, used to cure with it diseases of the head and stomach, toothache, colic, fever, hysteria, hypochondria, epilepsy, apoplexy, gout, and dropsy, and it was also used by them as an evacuant in cases of ascarides and lumbrici. Later it was relied upon in the treatment of croup, and although it was considered by some essential to give it in full emetic doses, it was regarded by many as a specific, independent of the vomiting it provoked, for the vomiting was not essential to the curative action of the *Copper*, which acted as well, if not better, when the dose was too small to induce emesis. And so the experiences of bygone times may be evolved from the forgotten records of a past age and again introduced as novelties, or as curiosities of medical literature.

In the year 1843 Dr. G. Schmid published an interesting paper in the *Hygea*, which was translated and copied into the first volume of this Journal, and which embodies some valuable practical deductions, based upon a careful analysis of the symptoms recorded by Hahnemann, Noack, and Trinks, as the symptoms which *Acetate of Copper* had induced when experimentally taken by healthy individuals. Of course, we all know, as homœopathists, that the medicinal action of a drug cannot be ascertained by giving it in large doses only. These attack the organism with such force that it exerts all its powers to repel the assault, the conflict producing a very chaos of symptoms, which

for clinical purposes is of very little value. Lessen the dose and the drug will act with greater subtlety, and the organism not being aroused into violent reaction, will allow the specific power of the drug to declare itself, and in ascertaining the medicinal action of any substance, these are the symptoms which will guide us with unerring certainty. The mere knowledge that a drug is a purgative, diuretic, emetic, or diaphoretic, is most unsatisfactory, and leaves us in absolute ignorance of the specific sphere of action, which all substances possess, if they have any medicinal value. The science of therapeutics cannot advance whilst starting from such a basis, and its study in this restricted sense must entail the everlasting chopping and changing which have hitherto characterised it.

The symptoms recorded by toxicologists as characteristic of poisoning with verdigris are so unlike the symptoms produced by the prolonged use of smaller doses, that Dr. Schmid starts with the opinion that *Copper* possesses a twofold action on the organism, and the resulting phenomena are opposed to each other, or, in other words, the presence of the one excludes the manifestation of the other, and he illustrates this duplex action by reference to the *morbus cerealis* arising from the use of spurred rye, which in some exhibits chiefly nervous symptoms, and in others a gangrenous affection, and this so constantly that two forms of disease are described, viz., the convulsive and the gangrenous. This fact led Dr. Schmid to form an important deduction, upon which he lays stress as a characteristic guide for the selection of the cupreous salts, when treating a disease for which they may appear suitable. Not only must the symptoms which we wish to alleviate be similar to those which the *Acetate of Copper* is known to induce; but they must arise during the progress of another morbid condition, and for the time supersede the original affection by their severity and exclusiveness. For example, during the course of the acute exanthemata severe symptoms may arise in consequence of the eruptive stage being retarded, or after the stage of

florescence has commenced from the sudden disappearance of the eruption, and for this state the *Cuprum aceticum*, if not a specific, can with the greatest degree of certainty be relied upon to save the patient. To illustrate this action I wish in this paper to refer to cases which have occurred in my own practice. Some of these cases have already been published, but not as special instances of the usefulness of this drug.

The first of these is a case of infantile eczema, hooping-cough and meningitis, which I published in the *Observer*. J. P—, æt. sixteen months, has suffered from eczema on the head, face and neck, and in scattered patches over the body since early infancy. In the month of January, 1862, he sickened, along with his brothers and sisters, with hooping-cough. The case progressed favorably for the first week, about which time the eczema, from no assignable cause, began to disappear, the child at the same time becoming more fretful and tedious. The sleep was frequently disturbed, the child crying out as though in pain. As the gums were distended over the upper lateral incisors, they were freely lanced, but no improvement followed.

On the morning of the 11th of February the child started from sleep with a scream, and almost immediately had a slight convulsion which lasted three or four minutes. On paying a visit a few hours afterwards I found the child feverish, the head hot, the eyes suffused and screwed up tightly, the pupils contracted, and great irritability of the stomach. Everything given in the way of food was immediately rejected. I prescribed *Acon.* and *Bell.* alternately every hour, and cold applications to the head. Three hours afterwards I was again summoned. The child had been convulsed upwards of an hour; the eyes were open, the pupils widely dilated and quite insensible to the stimulus of light, and the child was squinting horribly. The mouth and limbs were constantly jerked and contorted; the pulse so rapid and irregular that it could not be counted, and the head and face bathed in perspiration. Brandy stupes were applied to the epigastrium and legs, evaporating lotions to the head, and half an ounce of

brandy in arrowroot administered as an enema. The late Dr. Walker, who had been sent for at the same time as myself, kindly attended the case with me.

These measures had no appreciable effect, and the case appeared to be hopeless. I remained in the house all night; a drop of *Bell.* 1x and grain doses of *Merc. dulcis* 1x were rubbed on the gums alternately every half hour. About three o'clock in the morning, twelve hours after its commencement, the convulsion ceased. The child continued profoundly comatose, and vomited several times violently. A little brandy and water was given occasionally on a piece of sponge; but the little sufferer made no attempt to suck the sponge, when it was inserted into the mouth. At nine o'clock Dr. Walker again saw the case with me; we gave up the *Calomel* and substituted for it *Cuprum aceticum*, continuing the *Bell.* as before. I again visited the child at 9 p.m., and remained in the house all night. At midnight the child began to show signs of consciousness. It sucked the sponge when put into the mouth, and swallowed a teaspoonful of arrowroot. The next day the eczema began to appear on the neck and arms; the same treatment was continued, the child being evidently better. From this time a steady improvement set in, and at the end of a fortnight the child was nearly well again. The interesting feature of this case was the disappearance of the eczema and the simultaneous appearance of serious nervous symptoms, ending in convulsions and profound coma, which passed off after the use of the *Cuprum aceticum*, but with the reappearance of the eruption on the neck and arms. This quite supports Dr. Schmid's opinion, that when the cerebral affection, which usurps the place of the eruption, is successfully removed, the eruption again makes its appearance, and runs its well-known course. At present it is fashionable to ignore the doctrine of metastasis, and these phenomena will be regarded by some as trifling coincidences unworthy of the notice of modern thinkers; but it is not improbable that the doctrine of metastasis will again come to the front. After this illness the skin affection was severer and more

diffused than before, and always became very irritable and bathed with serum during the time that teeth were being cut. The child has grown to a healthy, sturdy lad, and the eruption is now permanently cured; the constitutional state for which in infancy the eczema appeared to be a necessary relief having passed away.

The next case occurred in my practice last year. Mrs. L—, æt. 30; no children; has been an invalid for many months. She has latterly suffered from eczema behind the ears and on the labia and inner sides of the thighs, which has been relieved under allopathic treatment by the use of lotions, ointments, and saline aperients with Iron; the *Sulphate of Magnesia* and *Sulphate of Iron* being combined in the medicine prescribed. After the subsidence of the eruption the patient became much worse; the stomach was very irritable and rejected every kind of nourishment, and whether she took food or not there was a continual desire to vomit, with retching of the most distressing character. The bowels were equally irritable, small papescent stools being passed frequently in the twenty-four hours, often mixed with mucus and blood, and greatly increasing the sufferings arising from a constitutional tendency to hæmorrhoids. The nervous system was greatly depressed, she fretted the greater part of the day, spoke most despondingly of her miserable condition, and hoped that death would liberate her from her sufferings, before she had tired out the patience of her husband and friends. After continuing in this state for several weeks, I was requested by her husband to take charge of the case in November, 1871. I prescribed *Antim. crud.* 3^r and *Ignatia* 1^r at my first visit, but subsequently thinking that many of her symptoms might be due to the repression of the eczema, I prescribed the *Cuprum acet.* 1^r. The vomiting and diarrhœa ceased almost at once, but I believe my patient would have had no confidence to continue the treatment had I not warned her of the probable consequence of the medicine. Having candidly given my opinion that the constitutional disturbance from which she was now suffering might be due to the sudden removal of the skin ailment, and by external means

chiefly, she appeared better prepared than I was to submit to the reappearance of the eczema, which quickly spread over the head and face, removing all the hair, then to the arms, the chest and back, the nates and inner surface of the thighs, which soon rendered her state almost intolerable. With great fortitude she passed through this ordeal, and after the internal use of *Arsenicum*, *Graphites*, *Ferrum* in different forms, and, during her convalescence, a sojourn to Harrogate, she was restored to health in eight months, and has since enjoyed better health than she had previously done for years. I must confess I was not prepared for the extraordinary influence of the *Cuprum* in this case. The diarrhoea and vomiting which followed the sudden disappearance of the eczema, and which seemed to be an effort of nature to remove the something from which the eczematous eruption arose, was the indication which led me to select this medicine. I was quite appalled by the severity of the eruption when it returned, and was only encouraged to continue my treatment by the fortitude of my patient, which appeared the stronger after the terrible despondency which had previously characterised her state, together with the subsidence of the severe constitutional symptoms which had threatened the chances of her life.

The next cases illustrate the use of this medicine in certain states which occur during the progress of the acute exanthemata.

The first is a case of measles, which I have already published in the *Observer*. A delicate girl, æt. 7, of light complexion, sickened along with her brothers and sisters in August, 1864. The case appeared slight at the onset, and medical advice was not sought until the third day, as the other children had done well under domestic treatment. The child then lay apparently unconscious, a slight frown on the face, pupils contracted but susceptible to the action of light, twitching of the arms and legs. She had vomited twice during the earlier part of the day; pulse irregular and very quick, skin dry and pungent, and patches of eruption on the chest, but not elsewhere. The previous day to the one I saw her the whole of the child's body had appeared

well covered with eruption, but instead of continuing as in ordinary cases, it had suddenly disappeared, the child at the same time complaining of headache, nausea, and chilliness. Ordered the lower extremities to be rubbed with dry mustard, and then had the patient enveloped in a blanket wrung out of hot water, and prescribed *Acon.* 1^x and *Bell.* 1^x in drop doses alternately every half hour. Almost immediately after I had left the house the patient had a severe convulsion, lasting nearly an hour. In the evening, the symptoms being much the same as the morning, I gave five grains of *Merc. dulcis* A, followed in four hours by *Castor oil*. The skin was moister than in the morning, and the lower extremities were reddened by the action of the mustard and hot-blanket pack; continued the medicines.

August 11th.—Still unconscious. Twitching continues, but no convulsion since yesterday. Moans as though in pain, bowels freely acted upon by oil and *Merc. dulc.* Pupils dilated and act sluggishly. *Hell.* 2^x and *Cupr. Acet.* 1^x every hour.

12th.—Slight improvement; the child is irritable and dislikes being examined; pupils act better than yesterday; less twitching; pulse rapid. Appeared conscious and distressed by the action of the bowels this morning. Medicines repeated.

13th.—Eruption increasing over the body, screwed up the eyes and pushed away the candle when I attempted to examine the eyes. Pulse 130; less twitching, slept at intervals during the night without moaning or tossing about.

14th.—Recognises its mother and the nurse, and appears altogether better. Has been troubled with a cough during the night. I prescribed *Hyoscy.* ϕ and *Cuprum*. Mild nourishment, principally farinaceous, with beef tea or chicken broth. From this date the recovery was rapid, and *Bell.*, *Puls.*, and *Sulphur* were the only medicines prescribed. With my present experience I should now at once prescribe *Cuprum aceticum*, instead of the *Aconite*, *Bell.*, *Merc. dulc.*, and *Castor oil*, and at the onset of this case I believe I lost several hours by not using this medicine.

In the treatment of scarlatina I have again and again tested the value of this drug, and with uniformly encouraging success. Before using it as I now do, I have lost cases which I believe could have been saved; the last occurred in my practice in 1866, and is so very similar to one which I treated a few weeks ago that the recollection of it is vividly recalled to my mind. It was a little girl, who suddenly became poorly, but no symptoms sufficiently marked enabled me to determine the cause of the indisposition. The same evening I visited her again: sore throat, high fever, rapid pulse, and great stupor led me to suspect scarlet fever; and I prescribed *Aconite* and *Bellad.*, and directed the nurse to give a hot-blanket bath, and endeavour by warm drinks and clothing to encourage the efflorescence of the customary rash. During the night convulsions set in, and when I paid the morning visit the little patient was dead. Her sister shortly afterwards sickened with scarlet fever, through which she passed favorably, and made a good recovery. The case to which I am about to refer commenced as badly, but fortunately ended well. I was attending at the close of the last year three cases of scarlet fever in one family. The youngest child, æt. 14 months, had not so far sickened, but as a precautionary measure, I had prescribed a dose of *Belladonna* night and morning, as I have not lost my faith in its prophylactic powers, and regret very much that a man like Christison should allow his animus to bias his judgment so much as to make him write the following paragraph: "It has been lately maintained on the faith of reputed trials in Germany, that *Belladonna* in frequent small doses is endowed with the singular and unaccountable property of preventing the invasion of scarlatina. Many instances of its efficacy as a prophylactic have been recorded both in Germany and France. The alleged property has, however, been generally disbelieved in this country, mainly, perhaps, in consideration of the individual who first announced it, and who made use of the facts in his own way to support his wild theories respecting homœopathy. But as the treatment is simple and safe, it seems irrational to decline giving it a fair

trial so long as there are hundreds of public institutions for children in Britain that every now and then are over-run and decimated by scarlatina.”*

On the 16th November, 1872, my attention was directed to the condition of this child, which did not appear satisfactory, and although the symptoms were not sufficient to enable me to judge with certainty, I thought it probable that scarlet fever was impending. During the night I was called up, as the little patient had had a severe convulsion, and I found it lying unconscious on its mother's lap, the face pale and clammy, with dark circles around the eyes, which were partially opened, and which gave a very death-like appearance to the child. There was slight twitching of the extremities, the hands were clenched and the thumbs were turned upon the palms. I had the child undressed and placed in a blanket wrung out of hot water, and after the application of whisky to the head, I rubbed the gums with *Cuprum acet.* 1^x. For some time it remained in the same state, taking each now and again a deep inspiration, but without other change, and I left *Bell.* 1^x, with directions that it should be used in the same way as I had adopted with the *Cuprum*, and if the child appeared more conscious, to endeavour to get it to swallow drop doses in water every half hour. The next morning the child was much better, very drowsy, but could be roused and had taken the medicines and some food for a few hours. During the following day the characteristic rash came out copiously, the nervous oppression subsided, and the disease ran a usual and not very severe course.

Twelve months ago I read a paper to the members of the Northern Homœopathic Medical Association on a case of cerebro-spinal meningitis, which was published in the *Monthly Homœopathic Review* for June, 1872, to which I will again refer as an illustration of the value of this drug. The patient was taken suddenly ill when returning from a school meeting, with a severe rush of pain to the head, followed by nausea, faintness, and pain in the epigastrium and abdomen. For several days the symptoms were very

* Christison's *Dispensatory*, 2nd ed., p. 216.

obscure, such as neuralgic pains in the abdomen and about the epigastrium, muscular pains in the limbs, shoulders and buttocks, and a sense of constriction around the waist, but on the sixth day of his illness he had severe pain in the nape of the neck, the head retracted so that when he stands he cannot look down upon the floor. There is some contraction in the muscles of the spine, and the back appears stiff and straightened when he gets out of bed. He can walk, but he does so awkwardly, with the head thrown back. Complains of severe pains in the right shoulder and arm, and cries out if any attempt is made to raise it. He had severe pains in the buttocks and hams during the night, but they are comparatively free to-day. *Bell.* 1^x *Rhus* 1^x.

January 17th.—Profuse perspiration all night, which he thinks has relieved the pains. He lies perfectly still upon the right side, the head thrown back, and the spinal muscles feel hard and contracted. He says he is moderately comfortable whilst quiet, but he dreads to move, as every motion produces pain; tongue dry and coated, bowels relieved by enema; *Acon.* 1^x *Nux* 1^x. The spine to be rubbed with this embrocation:—*R. T. Aconiti, T. Bellad. aa ʒj, Liq. Ammon. ʒij, Ol. Olive ʒiiiss ft. Lin.*

18th.—Thinks there is more freedom in the neck, and that his condition is improving. There is decided loss of power in the right arm; he can move it with difficulty in different directions; can elevate it from the shoulder, but he has very little power to grasp anything, and when he attempts to shake my hand I am only conscious of a slight momentary pressure from the fingers and a slightly stronger pressure of the thumb. He says "the whole arm feels benumbed and as though it was asleep, but I have been lying upon it so constantly for several days that I am not surprised." The legs appeared free from any paralysis; he moves them about freely in bed, and when out of bed can walk. Pulse 106; tongue coated. *Nux* 1^x *Bell.* 1^x.

19th.—In the early part of the day he felt so much better that he got out of bed and sat in his chair for several hours. During the evening he was slightly incoherent and very restless, but I was not sent for, and did not know

of these changes in his symptoms until the following morning.

20th.—Has had a very bad night—sleepless, restless, and talking incessantly. Answers questions when his attention is fixed, but rambles off incoherently, and mixes up business matters with his replies. Says “he has more pain in the neck and in the loins, which are held in bathing drawers screwed up as tight as a vice.” The head is retracted far back on the shoulders, and the spinal muscles are so rigid that there is a state of partial opisthotonos; pulse irregular, about 118; tongue moist and coated; right pupil contracted more than left. *Acon.* 1^x *Bell.* 1^x every hour. Ice to the back of the head and nape of the neck. Mr. Cox met me in the evening. Condition worse; rambling delirium all the day, with delusions leading him to describe supposed difficulties through which he was passing, as fraud, murder, &c., and to distribute bequests to different charitable objects. The right arm appears quite powerless, the fingers moving constantly, and the muscle of the forearm quivering so that the pulse cannot be counted on that side. No urine passed since morning. After arousing him and directing his attention to the act he passed some with difficulty, and with the expulsion of flatus and a small motion at the same time; pulse 110. *Gels.* 1^x, *Strych.* 1, gr. j, alternately every hour. I saw him again during the night, the delirium more boisterous, and it was with great difficulty that he could be retained in bed; he clutched hold of the bed curtains with the left arm to drag himself up. Pulse 120; temperature 103¹⁰.

21st.—Mr. Cox met me at 10 o'clock. The retracted state of the head, the rigid contraction of the spinal muscles, the loss of power in the right arm, and the involuntary twitching of the left, the peculiar convulsive shocks through the whole body, which made every limb and muscle start, left no doubt upon our minds that our patient was in a most critical state, and that the disease was seated in the upper part of the spine and was ascending towards the base of the brain, and we suggested a consultation with Dr. Drysdale, who, in reply to our telegram, arrived in Man-

chester that evening. The delirium continued all day, and the symptoms retained the same character, but appeared aggravated. When we attempted to push the retracted head forwards the features were convulsively contorted, and the pain in the neck appeared greatly increased. Dr. Drysdale suggested *Cuprum aceticum* instead of the *Strychnia*, and to give it in alternation with *Bell.*, and the continuation of the ice to the spine, but by means of Chapman's vulcanized ice bag.

22nd.—Very restless until 7.30 a.m., when he went to sleep, and slept rather heavily until our visit at 9.30 a.m. He was easily roused, but answered questions incoherently; pulse 106; temperature 103° . Chapman's ice bag, eighteen inches long, applied from the nape of the neck. *Bell.* and *Cuprum* continued.

23rd.—Had a quiet night, and slept calmly for nearly two hours. Answers questions and describes his sensations with some degree of accuracy, but rambles and talks incoherently when his attention is not fixed. Convulsive tremors of both arms, and sudden jerks affecting the whole body by startings in every limb occur at intervals; pulse 102; temperature $102\frac{1}{3}^{\circ}$. Bowels relieved by enemata after some difficulty. Urine passed partly involuntarily, but there is a semi-state of consciousness of the act before its completion. Dr. Drysdale saw the case again in the evening. The general improvement more marked, and decidedly more conscious. The patient appears to recognise Dr. Drysdale as a stranger, and describes his state to him. Evening temperature $101\frac{2}{3}^{\circ}$.

24th.—Although he spoke to Dr. Drysdale and answered his questions last evening he has no recollection of his visit. Had a fair night; rambles a good deal when dozing, but when aroused he answers questions and converses rationally. Complains of a sensation in the spine, as though he had received a blow, and this sensation is manifested by a sudden jerk through the whole body. During our visit he has had three of these twitches. He thinks the sense of pain is most intense just below the ice bag, and we have, therefore, ordered one four inches longer. Thinks the difficulty

of voiding urine is greater than hitherto, and when he finishes passing it complains of a painful shudder which has recurred each time during the last few hours. Temperature 103° ; pulse 106. *Bryonia* 1, *Cuprum acet.* 1 every hour alternately.

25th.—Passed a restless night, and does not seem so well this morning. Increasing difficulty with the urine. The nurse says the convulsive jerks appeared more frequently during the night. Last evening he tested his powers by turning himself upon the left side, and afterwards by raising himself into a sitting posture, which produced great suffering in the back and spasmodic contraction of the features. Pulse 112; temperature 102° . *Bell.* instead of *Bry.*, the *Cuprum* to be still continued. A dose of *Cantharis* 1 every four or six hours.

26th.—Improved; sleeps better; the jerks are both slighter and less frequent; urine passed in large quantity; complains of hunger. To have a chop in addition to beef tea and milk, and if much exhausted to have a teaspoonful of brandy in water.

27th.—Comfortable day; evening temperature 101° ; pulse 98.

29th.—Better in all respects. Is very anxious about the paralysed state of the right arm, and expresses a wish to have an interview with Dr. Drysdale, as he cannot recollect his previous visits. *Sulphur* 1 every four hours; gradually leave off the ice.

30th.—Dr. Drysdale has seen the patient with us. His condition is very satisfactory, the retraction of the head has passed away, and he can lie upon the back and left side for a short time without discomfort. He has had tranquil sleep during the night; the pupils are quite equal, and dilate and contract regularly. The bowels were well relieved by an enema this morning; he felt exhausted afterwards, but soon recovered after taking a teaspoonful of brandy. The right arm continues benumbed and powerless; he has a little grasping power, but it is very slight and jerky, and he is uncertain, if he is told to hold a pin between his thumb and forefinger, whether he has it or

not after its withdrawal. He has enjoyed his food, and thinks he could take more if allowed to do so. Temperature 99°; pulse 86. From this date he improved day by day.

On the 4th he attempted to sign his name, but only succeeded in making an illegible scrawl, which temporarily depressed him. The following week he succeeded in signing his name in a very fair manner. A slight galvanic current was now passed from the spine to the fingers by means of the electro-magnetic machine. His general health very much better; sits in his chair for a few hours, or lies upon a couch. The power in the arm had so far been regained that on the 2nd of March he was able to shave himself, and two days afterwards he went to Southport. After spending a month in Southport, and three weeks in Hastings, he went to Schwalbach, and upon his return home he resumed his usual business habits, but soon found he was unable to work as he had been accustomed to do. He persevered week after week, and at last determined to take rest and treatment at a hydropathic establishment. In September he again returned to Manchester, and, unfortunately, with confirmed and progressive paraplegia, and continues still under my care, and I fear his present condition does not admit of much hope of amelioration. But it is not necessary here to enter into a description of the present state of the patient; the case is only alluded to now to demonstrate the powerful action of the *Cuprum aceticum* during the acute attack of *cerebro-spinal meningitis* in January, and from which he had so far recovered that he could walk about and enjoy the scenery of Schwalbach for several hours in the day, and appeared then to be steadily passing through a satisfactory, progressive, and lasting convalescence. In January his life appeared to hang by a thread. The upper portion of the spine and the base of the brain were invaded by inflammation of the meninges. Within twelve hours of the first dose of the *Cuprum* the gravity of the symptoms had subsided, and the patient after many hours of incessant and incoherent delirium went to sleep, and although at first it was heavy and almost comatose, the transition from

immediate danger to comparative safety was very rapid. The type of the delirium resembles, strikingly, a case referred to by Dr. Schmid. "The fixed idea," says he, "which was the cause of great anxiety to my patient, was, that he saw officers of justice who came to drag him before the tribunal, whereat he burst into tears and lamentations like a child. . . . Besides this the patient saw in the apartment thieves, ghosts, and many lifeless objects which had no existence in reality." Again, in speaking of a state which he names "*apoplexia nervosa*," he says, "In several severe diseases we frequently observe slight attacks of this nature, in which the *Cuprum aceticum* is the best remedial agent. Consciousness is lost; the face is distorted with convulsions; the mouth drawn to one side; the tongue partially paralysed and awry; speech impeded or completely lost; one extremity, generally an arm, moved with greater difficulty than the other, &c. Such a case I witnessed in a phthisical patient. The *Cuprum aceticum* speedily procured relief." In my patient consciousness was lost, the pupils acted irregularly, there was a fixed idea of crime, for he referred to the murder of one of his oldest friends, whom he said he had robbed, and he dreaded the presence of the wife and the children of his victim, who haunted the room, and he expressed a wish to atone for his imaginary guilt by distributing his means to different charitable institutions, and to these symptoms we had the violent contortion of the features when we attempted to push the retracted head forwards, and the loss of power in the right arm. I believe the selection of the *Cuprum aceticum* in this case to have been a most happy one, and I am sure my patient's friends fully recognised and appreciated its effects. I only wish I could give a more favorable report of the present condition of my patient, but, although I cannot do so, I know that the wife, daughter, brother, and sister, fully recognised the influence of this one medicine.

Ever since I have known anything of homœopathy I have used the *Acetate of Copper* in the treatment of hooping cough, and when used at the right period of the

disease it is a most useful and reliable remedy. In the early stages of the disease, when the cough is more catarrhal than spasmodic, it is of no use. Then *Ipecacuanha* and *Belladonna* are indicated, but as soon as the disease has become decidedly spasmodic I rely with the greatest confidence upon the *Cuprum aceticum*. During the past winter I treated a case very successfully with this medicine in a child not twelve months old, the attacks being very severe, and on several occasions ending in a convulsion. In very young children this is a frequent and very serious complication, as we should infer from the congested state of the vessels of the head, face, and neck, during a paroxysm of the cough, and when we remember the delicate state of the brain in young children, and especially in infants, our wonder is not that cerebral disorders occur, but that they are not more frequent. I have used it in laryngismus stridulus, but I have been disappointed with the results, and I cannot recall a case in which I could be certain of its beneficial influence. Dr. Hughes thinks it is useful when arterial excitement and cerebral congestion are absent, and it is a medicine which from analogy I should have expected to be particularly suited to these cases. My want of success will not prevent me making further trials with this medicine, for I do not think I have had any more success with other remedies. Time, carefully attending to the general health, and removing as far as practicable all sources of irritation, have hitherto appeared to me the only means of removing this disease, and when I have failed by this general treatment a change of air has often been markedly beneficial.

Five years ago I had a very obstinate case of chorea under my care, which was cured by the *Acetate of Copper*. It occurred in an old man approaching his seventieth year. He had been an irregular liver, and had spent the greatest portion of his time in the Manchester Cathedral, where he had for years acted as one of the apparitors. A few years before his illness, he had retired from this position through failing health. He was seized suddenly on his way home with giddiness in the head, and it was with difficulty that he

could stand. A neighbour assisted him, and after he reached home he had a severe rigor, and shivered until the bed shook beneath him. I saw him the following morning, and I then noticed a peculiarity in the movement of his hands. He complained of pain at the back of the head, but made very light of the attack, and it was with difficulty that he could be persuaded to remain in bed. The next day the peculiar and involuntary movements of the hands and arms were more marked, and he threw them on the bed with great violence, suddenly twitched them from under the sheet the moment his wife had covered them, and the twitching afterwards extended to the legs. The movements did not entirely cease during sleep; but they were very much modified. The general health did not suffer; the old man took his food ravenously, but he could not feed himself. He said "he never took so much exercise in his life, and he was like to be hungry," when I asked him about his appetite. *Iron, Sulphate and Phosphate of Zinc, Nitrate of Silver, Arsenic, Actæa, Belladonna, and Indian hemp* were given successively, but without in any way modifying the spasms. After I had been attending him for nearly three months I gave him the *Cuprum aceticum*, and from that time he began to improve, and in six weeks he was cured. His mental powers had been greatly shaken by the illness, and he never lost the vacant expression which then came on, and which gave him a fatuous appearance; his memory rapidly failed, and he died two years afterwards quite demented. Frank quotes a number of cases of chorea and epilepsy where the ammoniacal *Sulphate of Copper* has effected speedy and permanent cures. "One was a girl sixteen years old. For several months past she had been afflicted with vertigo and headache; gradually she was attacked with muscular tremors first in the lower and subsequently in the upper extremities. After having been treated with ammoniacal *Copper* for five weeks she was radically cured. Gebhardt says that he has cured with this agent cases of chorea and epilepsy which had resisted every other drug. He prescribes it in doses of one fourth of a

grain several times a day. A much smaller quantity may prove sufficient" (Hempel).

The *Acetate of Copper* has been used in the treatment of Asiatic cholera. I have had no experience of the treatment of that disease; but in severe cases of summer diarrhoea, when there has been severe griping pains with cramp of the extremities, I am sure I have derived quick and unmistakable results. "Lobethal asserts that *Cuprum* has only an inferior influence in the Asiatic cholera, and is neither as important a prophylactic nor curative agent as is represented by many homœopathists, and Dr. Schmid likewise thinks that *Cuprum* is not a very efficient agent in the treatment of Asiatic cholera." The conversion of one of our Manchester homœopathists was due to witnessing the decidedly beneficial effects of the *Acetate of Copper* in the treatment of the collapse and severe spasms of cholera during an epidemic at Honiton. In cramps of the legs from other causes, and particularly in old people, I have again and again derived benefit from its use. In younger patients the so-called cramps are often due to either a want of tone in the muscular system, or to severe and undue exertion, the system not being equal to the effort. The pain is then more of a myalgic character, and the two greatest medicines for this state are *Arnica* and *Actæa racemosa*. A patient during the last winter, after playing in a football match, was so sore and stiff that he could not move in bed without the greatest suffering, and the slightest attempt to move produced severe crampy spasms in the muscles, and after enduring the pain the greater part of the night he sent for me before five in the morning, and these two medicines gave him very rapid relief, the cramps vanishing after the second dose of the *Arnica*.

In my own practice I usually used the *Acetate of Copper* in the first or second decimal attenuation; but probably some of the other salts, and particularly the sulphate, would act equally as well. I should have less confidence in metallic *Copper*, and should prefer to use it, if at all, in trituration. The medicine may be given in drop doses, and should be

well diluted with water. The preparation does not keep well in these low potencies, and is apt to deposit a flaky sediment, when, of course, it must be rejected and a fresh solution prepared.

POLYURIA CAUSED BY COMMON SALT.

By PROFESSOR ABELIN, M.D., Stockholm.

WITH A FEW REMARKS OF DR. LIEDBECK, OF STOCKHOLM.

THE following observation, so ably related by Professor Abelin in the *Northern Medical Archiv*, vol. ii, part 3, pp. 17, 18, bears so closely on the pathogenetic effects of salt, that I think it will serve as a fitting supplement to my last article in the *British Journal* on this subject.*

That an enema, strongly saturated with salt, should produce polyuria, nay, even wasting, will appear startling to many; but these symptoms were already observed by Hahnemann, and are here corroborated in the proper field of observation. Thus, what I have already maintained has been confirmed, viz. that physicians of the physiological school will arrive at a more decided corroboration of the original views and observations of Hahnemann than homœopaths. Hahnemann was, nevertheless, the first to make physiological experiments and observations in order to solve this question. It seems incredible that, of our school, scarcely any one but myself has warned against the abuse of salt, or made any further observations on the manifold complaints which follow its daily use, especially in its crude or raw form. But this cannot continue for ever, since an initiative by a true physiological observation has commenced.† I readily admit that *Chloride of Sodium*, having

* See Vol. XXX, p. 404.

† The interest of Professor Abelin's case is enhanced and corroborated by the experiment of Drs. Bock and Hoffman, who state in the *Archiv für Anatomie und Physiologie* that an injection of a weak solution of common salt

to fulfil several important uses in the human economy, may be wanted at times, just as well as other chemical elements which enter into the composition of the various tissues, viz. *Phosphate of Lime, Iron, &c.*, but as these are under normal conditions assimilated out of the food, and only should be administered as medicines (homœoplastic) when they are not thus supplied, or else morbidly eliminated in the secretions, so also ought we to look upon the use of salt.

The instinct seems at times to be a guide to the use of salt. I had myself, last spring, a greater longing for salt food and salt butter, after the use of delicately salted herring, than ever before from the use of salt. During the same time I observed in a salt-eating woman, æt. 37, who suffered from night perspirations. These symptoms gradually disappear with her discontinuing the use of salt, whilst, at the same time, her complexion improved, and she gained in flesh. She observed that she had been more thirsty since she had left off taking salt with her food. I have had before several cases of the same character.

Professor Abelin commences:—"Though polyuria is, according to my experience, an uncommon disease during infancy, I have had several opportunities of observing it in my private practice during 1868, when also the following case occurred in the dispensary :

"On the 10th November, 1868, the little girl, A. Z—, about six years old, from Eskilstuna, was brought there for my examination. No hereditary disease was made out in the patient's family. She is born of healthy parents, and none of their four younger children have been affected with any serious illness. The health of the patient had always been good, with the exception of an otitis a couple of years ago, which resulted in an abscess behind the right ear.

"In the month of May, this year (1868), a lameness of the right leg came on after exertion. The patient felt no pain in any part of the affected leg. The physician who

into the carotid or crural artery of a rabbit produces diabetes mellitus,—first polyuria takes place in proportion to the rapidity of the injection, after which comes the sugar till it gradually disappears.—(*The Lancet*, Dec. 21, 1872.)

was consulted expressed his opinion that no disease of any of the joints could be discovered. He prescribed, however, rest, which was continued for two months and a half. After this period, when the patient was allowed to walk, no trace of the lameness could be detected, nor has it since returned.

"A few days after the treatment by rest had commenced the patient's bowels became constipated, and an enema was consequently used, in which a considerable quantity of common salt had been dissolved. During the following night the patient became very thirsty, and drank large quantities of water, passing also a great quantity of urine. These symptoms have ever since uninterruptedly continued, and instead of showing any signs of remission have rather gradually increased.

"The quantity of water consumed in the twenty-four hours was, in the beginning of June, about one gallon and one pint (2 kanner, Sw.), and the quantity of urine voided in the same space of time was somewhat less than one gallon ($1\frac{3}{4}$ kan., Sw.). The patient commenced by that time to lose flesh and strength. Her appetite diminished, and her sleep was often interrupted from the need of allaying her thirst and desire to void the urine. The bowels have been regular; no perspiration, the skin being generally cold. Her temper has become irritable and peevish, not preventing her, however, from occasionally taking a part in the games and occupations belonging to her age.

"On one occasion, and in order to test the little patient's need of drink during the night, her father had ordered that no water should be placed by the side of her bed, but, instead, two pint bottles of Bavarian beer and two pint bottles of porter, which were all found quite emptied in the morning.

"*Status præsens* the 12th November, 1868: — The patient is of ordinary size and development for her age. The face tolerably plump, but the body thin. No œdema in the face or the extremities, nor extravasation in the cavities. The skin is pale, dry, but elastic to the feel; its temperature normal. The thorax laterally somewhat compressed. Respiration even, uniform, and calm. Percus-

sion-sound full and clear. The respiratory murmur, probably on account of the thinness of the thoracic wall, is somewhat rougher than the ordinary puerile sound; in other respects nothing abnormal.

"About the heart or its sounds nothing to remark. The pulse is full, soft, 92 beats per minute. No abnormal sounds in the vessels of the neck. The tongue is slightly tinged with a whitish-yellow covering. Appetite indifferent; bowels regular. The abdomen somewhat enlarged, but soft, gives all over on percussion the intestinal sound.

"There is nothing to remark about the liver or the spleen. No tenderness over the region of the kidneys.

"The urine, which is often voided, is quite clear, of a peculiar greenish colour, and of a feebly acid reaction, becomes frothy on being shaken. Its specific gravity in the morning is 1.005; in the afternoon 1.004. The urine of the morning shows, by the nitric acid test, evidence of albumen; in that of the afternoon, however, there is no trace of it. In the specimens, which hitherto have been microscopically examined, no tubular casts have been found. A few epithelial cells, either normal or granular, occasionally containing a fat-globule, and some crystals of lithate of ammonia, are the only noteworthy elements discovered in a great number of microscopical examinations which were made.

"As the patient immediately returned to the country, I have, only through correspondence with her physician, been able to obtain any further news about her. At the end of a year and a half I received the report that her state had not changed.

"Roneby waters and other chalybeate waters, the waters of Carlsbad, when gastric catarrh indicated its use, different tonics, water compresses over the region of the kidneys, and a diet adapted to the case, have thus all been powerless in producing the slightest alteration in the state of the child."

So far Professor Abelin's able relation of this interesting case. As for myself, I am inclined to think that the

Hahnemannian salt-antidote, *Spir. Nitr. dulcis*, in drop doses, three or four times a day, as well as in water during the night, would have yielded more satisfactory results than the treatment adopted. In this opinion I am supported as well by the action of *Spir. Nitr. dulcis* to increase the thirst, as by my own empirical knowledge of the effect of this salt antidote under somewhat similar circumstances. Among other salt antidotes which in this case are indicated, I may make mention of *Arsenicum* from 3rd to 30th dilution.

ON THE PATHOGENESY OF ACONITE, WITH CLINICAL OBSERVATIONS.

By J. H. NANKIVELL, M.R.C.S., York.

(Continued from page 224.)

(From the *Oest. Zeitschrift*.)

Chest.—"Shooting stitches in the pectoralis major muscle, and in the intercostal muscles of the left side. Soreness in the posterior surface (portion?) of the sternum as if bruised. The chest feels weary and exhausted. *Feeling of heat in the lungs.* Burning in the lungs, which does not interfere with the breathing; he feels as if some hot fluid would rise into the mouth."

The student of the *Materia Medica* will perceive that many of the symptoms recorded in the paragraphs under the heading *Oest. Zeitschrift* are almost duplicates of many given in the general text, and such symptoms are *pro tanto* the more to be valued than others which are found in one of the paragraphs only. Dr. Dudgeon, whose opinion is worthy of every respect, thinks that the complementary symptoms of the *Oest. Zeitschrift* are very reliable.

Shooting stitches in the pectoral muscle itself are not a

very common symptom, but they are extremely common in the intercostal spaces, and may be (so to speak) of a sthenic or asthenic character, whether muscular, neuralgic, or rheumatic.

Many years since a man playing at skittles overstrained the right pectoral muscle, and for several days suffered from stitching, lancinating pain therein. At the end of a week the muscle had become very prominent, and obscure fluctuation was felt beneath it. After a while a straight knife was passed through the swollen muscle, and a large quantity of pus evacuated. The abscess closed and healed in about a month.

But the plague of pleurodynia, especially as met with in young women, presents itself for treatment more frequently than is agreeable, and not on all occasions with a favorable issue.

In many of these cases, such as are sthenic, *Aconite* will render essential service, but in by far the larger number it will require to be aided by *Pulsatilla*, *Bryonia*, *Arnica*, &c. The "totality" of the symptoms must be studied, it is true, but every homœopath knows that this all-embracing term is one which involves hard and patient work.

Pain and soreness behind the sternum, and weary feelings in the chest, are such as for the most part are complained of by men, and more especially by women of weak fibre and flaccid tissues, who, from necessity, are compelled to do more work from day to day than they are well able to accomplish. If this view is a correct one *Aconite* would probably not exercise more than a palliative action.

The heat and burning in the lungs are not rarely often complained of. In my own experience I do not think that there has been a single instance, except as associated with the inflammatory fever accompanying pneumonia, &c., but in the present instance we have "which does not interfere with breathing," and so it would seem to be a subjective sensation, unaccompanied with any recognisable change of structure. Or lastly, and by way of hypothesis, is the part really affected the stomach with the œsophagus, albeit the sense of heat is in the chest? At all events *Aconite* has,

"burning in the fauces, burning down to the œsophagus, burning in the throat, burning sensation from stomach to the mouth, along the whole tract of the œsophagus." Certain it is that the gastralgia commonly known as "heart-burn" is more a chest sensation than an abdominal one. For the rest, should the lungs be ever the seat of "burning" *Aconite* is a noble remedy for the pain or disease so characterised.

"Gnawing pain in right clavicle. In three pulsations the apex of the heart beat only once against the wall of the chest. The beats of the left ventricle are isochronous with the pulse. The *right auricle* appeared to be *permanently convulsed*. The movements of that auricle were quick, irregular, and not proportionate to the beats of the ventricles. *The beats of the heart were distinctly perceptible, and took place in rapid succession*, the pulse being slow and intermittent, and the patient having a momentary attack of debility." Passing by the first symptom we find a group of symptoms induced by *Aconite*, which mimic very closely the so-called nervous affections of the heart, to which some reference has been made in our last paper. The irregular actions and beatings of the heart here described or related are often met in advancing age, especially in persons of a nervous temperament, and they give rise to a feeling of timidity and cowardice, and a desire to avoid every occasion of excitement. In such cases there is always imperfect or interrupted innervation, and not uncommonly is this the result of a gouty diathesis or of some laborious digestion of improper food. A late dinner, or, what is the same thing, a hearty supper, will often be the exciting cause of such an attack, and will be best met by *Nux vom.*, but when this fluttering arises from the depressing effects of exposure to cold, or from the torture of a bore, or from any other allied and equally potent cause, then indeed may we expect the best results from taking *Aconite*, to wit, a restoration of the ordinary rhythmical swing of the heart, a help to the great sympathetic nerve and its branches, gentle sleep, and thereby recovery. Experience teaches one that the right or left auricle may be independently affected with this flutter,

or both may be engaged in it. The sensation is like that which might be caused by a small bird imprisoned in the chest, and is painless and unaccompanied with angina. It is a quivering motion, like that of a hawk's wings when hovering, and can have a very small and slow effect in sending blood into the ventricle, but by-and-bye, when the ventricle is filled, it contracts in a most vigorous manner, a slight flushing is felt in the face, and all goes smoothly. Again, the movements of the auricles and ventricles may be as regular as those of a pendulum up to a certain point, when the supply of blood becoming scanty there is a small wave of blood sent from the heart that cannot be felt at the wrist. But immediately afterwards the heart recovers with a sort of bound.

"Oppressive aching in the region of the heart. Sensation in the region of the heart as if a heavy body were lying in its place. This sensation changes to an oppressive burning, accompanied with a flush of heat over the back. *Lancinations in the region of the heart, apparently in the pleura costalis*, hindering respiration and the erect posture, with sensitiveness to pressure in this portion of the thorax." It cannot be gathered from the above pathogenesis that the heart had become the seat of any truly organic lesion; it would rather seem that the "pleura costalis" was the central point affected, or perhaps the intercostal muscles only over the region of the heart. Does ordinary rheumatic affection of the chest often by progression reach the subjacent pleura itself? and then give rise to a true pleurisy or pleuro-pneumonia? if so, such cases are rare indeed. Severe rheumatism of the chest, especially when its principal point of attack is near the heart, may be safely treated in the first instance with *Aconite*. One hears at times that such diseases will get well of themselves; is it not then most terrible that those who believe this should still continue to give large doses of *Tartar emetic* until the patient can retain nothing on the stomach, and is brought into a state of utter syncope and exhaustion, as a recent case has demonstrated to the writer?

The expressions "aching, heavy weight, oppressive burn-

ing," especially the latter, to which the following remarks are directed, have often been met with at the bedside. Burning on or near the surface of the body is for the most part a subjective feeling, for therewith we may have a pulse weak and tranquil, a cool skin, and not one sign of a pyrexia either present or about to be, so that we have to think of neuralgia, fault of innervation, mal-nutrition of nerve-cells, cacæmia, &c. There is some advantage in taking this view of such a condition, and it is not small, viz. that we avoid all lowering treatment. Certainly when *Aconite* is tried to quench this kind of burning it should be used in the higher dilutions, as the 12th or 30th.

"Back, sacral region. Pains in the loins; pains in the loins like labour pains when walking; aching in the left side of the small of the back. Burning corrosive pains on the right side of and near the dorsal vertebræ; violent sticking, digging pains all along the spine, on the left side down to the small of the back, aggravated by an inspiration."

From this passage may be learnt that *Aconite* is especially useful for the relief of pains in the *left* side of the back and loins, and in Reil's *Monograph* on this drug we find it recorded that Fleming treated lumbago successfully now with *Aconite* internally, and, again, by its internal and external use. It is very probable that the use of *Aconite* externally is not so generally adopted for the relief of pain as it deserves to be. We have again in this passage the burning corrosive pain which *Aconite* causes.

Lumbar pains are often signs of diminished muscular power along the spine, the dead weight of the trunk being concentrated on the sacrum; such pains are not felt when the patient is in bed. In young men from fifteen to twenty these pains are often caused by severe work and take the form of what is called "crick," although this most laming affection is often induced by a very slight strain, and a man becomes suddenly as helpless as if a huge weight had struck his back.

It is believed that in most of these cases the general health is "not quite right." A deep inspiration, the act

of coughing or sneezing, will cause intolerable agony for a short time ; but rest and *Aconite* will speedily relieve the majority of such troubles.

" *Feeling as if bruised* in the small of the back and loins with painful paralytic stiffness in these parts (frequently extending as high up as the nape of the neck) ; tensive aching pain in the lumbar vertebræ, with colic, as from flatulence ; painful boring in *left* side of sacral region ; crawling in the spine as of beetles ; cutting pain extending in a circle from the spine to the abdomen over the *left* hip ; a digging, boring sensation from the right scapula to the chest, increased by an inspiration." I have remembrances of a lumbago and sciatica causing so much "paralytic stiffness" that the patient received the comforting assurance from his friends that he most certainly had had a "seizure" and from his doctor that he must expect to be halt all the days of his pilgrimage ! Neither the lay diagnosis nor the professional prophecy were (*gratias Deo*) fulfilled. The semicircle of pain from spine to abdomen recalls the initiative stage of Herpes Zoster, and the last symptom would seem to express severe rheumatism in some of the scapular muscles. The only notes I would append in this place is that in diagnosing a drug from the *character of the pains* our work would be much facilitated could we get our patients to specify ; but there are not many persons amongst even the educated classes who seem able to do this, and amongst the poor we seldom get beyond the terms "aching or shooting." Now, in our most valuable *Cypher Repertory* we have nine classes of pains, and at the very least forty-three varieties. Truly, if whatever is of value is difficult of acquisition, the noble science of homœopathic medicine does not fall short in this criterion.

"Feeling of weakness in the nape of the neck, with sensation as if the flesh were loose, and stinging in the nape of the neck when moving the head. Stitches in both sides of the nape of the neck. Rheumatic pain in the nape of the neck, only when moving the neck ; stinging in the outer parts of the neck ; aching pain in the left portion of a cervical

vertebra. Painful pressure in the neck, as if pressure were made with the tip of the finger from inwards in the direction of the trachea. Painful stiffness of the nape of the neck.

It is not often that we find a group of symptoms so well arranged in our *Materia Medica* as the above. We have the nape of the neck affected with myalgies and neuralgies, one or both, and described as "stinging," "stitching;" also aching, pressure, stiffness, and perhaps, as including these, the "rheumatic pain."

In the investigation of the causes of such pains we should never lose sight of the fact that when there is also *weakness* in the neck (especially in children) we may have to deal with the first stage of true spinal disease; and certainly the earlier vertebral disease is discovered, the better chance is there that it may be arrested. To me it is very doubtful if there is ever much good done by mechanical supports of any kind in the treatment of spinal affections. Far better is it that the patient should recline, and at times, as a fitting exercise, swing by the hands from a sort of trapeze.

I have again and again ordered the removal of orthopædic abominations, and always with satisfactory results; but the clinical observation is not much at home with *Aconite*. That *Aconite*, however, is of the most signal service in acute rheumatic affections of the neck is a mere platitude to affirm. One attack of this kind, I remember, was accompanied with such exquisite pain, that the patient on leaving his bed on the first day of the illness, fell along the floor in utter syncope. He had felt as if a dagger had been driven into his spine.

(From the *Oest. Zeitschrift*.)

"Paralytic pressure in the sacral region, relieved by movement, and stooping forward. *Numbness of the small of the back, extending as far as the lower limbs.* Pricking in the sacrum; sensitiveness of the lumbar region when treading. Sensitiveness of the region of the kidneys. Formication over the back, upper arms and thighs. Stitches in the back; numbness in the shoulders."

These symptoms will fall into two groups: 1st, paralytic pressure, numbness; and, 2nd, pricking, sensitiveness, formication, stitches.

And first we have signs and indications of disabled states *like* those which come on in the autumn or winter of life, and if *Aconite* is administered, it may be, done with every prospect of success. There is one precaution to be taken, viz. that it should be given in high dilutions; probably this medicine may be assisted by *Rhus tox.* The second group is very *characteristic* of *Aconite*. The sensitiveness in the lumbar region is the "homoion" of a by no means uncommon affection of the lumbar muscles, in which the patient is fully impressed with the idea that he has inflammation or congestion of kidneys setting in; an impression often strengthened by an accompanying phosphatic deposit in the urine. Verily, the pathogenesis of medicines and those of ordinary disease are not only very like each other, but often seem to be identical.

"*Feeling as if bruised between the scapulæ.* Stitches between the scapulæ. Drawing, tearing pain in the scapula (?). *Feeling of stiffness and as if bruised on the left side of the neck, extending beyond the left shoulder-joint, and a portion of the dorsal muscles, worse in the recumbent posture, diminished by movement. When moving the neck, single muscles of the posterior region feel weak and as if bruised, especially in the evening and at night.*"

Bruised feeling in neck and scapula, more especially towards the *left* side, is here to be noticed as contrasted with an *Arnica* symptom, viz. "*Pain of the right scapula, towards the back, as after a violent shock or fall.*" But in the pathogenesis of *Rhus tox.* we find under the rubric "Back" that the scapular pains are mentioned six times as occurring in the *left* side, and once only in the right side; also "Pain as if sprained in the nape of the neck and shoulders." We may be well assured that in case *Aconite* did not remove very promptly such affections as are above described, one or both of the correlative drugs now mentioned would aid and abet in dispersing such symptoms as were not covered by *Aconite*.

It is notorious that in persons of a rheumatic tendency exposure to a slight chill will oftentimes produce a counterpart of the pains enumerated. They for the most part are first conscious of the pains on awaking at night, and feel certain that they are in the incipient stage of an attack of acute rheumatism. Well for them if they have not remained invincibly ignorant of the potential aid which *Aconite* can give them !

VACCINO-SYPHILIS.

By C. B. KER, M.D.

TILL a few years ago the question of vaccination was one of those considered as settled. An infant was as certainly inoculated with the vaccine virus as it was given a name to. Jenner was never mentioned but as one to whom medicine and society owed a deep debt of gratitude for having freed them from the attacks of one of the most fatal and disfiguring of diseases, or if not freed them, at least almost protected them from its ravages. There has certainly been a minority, however, who have, almost from the beginning, protested against both Jenner and vaccination, calling the one a self-deceiver or an impostor, and the other a disease worse than that which it professed to protect against, a remedy worse than smallpox itself. Till a short time ago this minority has been held of no account, and believed to consist of wrong-headed fanatics incapable of listening to reason, and whose arguments deserved no treatment but that of being ignored or rejected with contempt. The minority has held its ground, nevertheless, and gained in numbers and importance, and now so far treated with respect that its existence is recognised, and its arguments replied to. The strongest of those arguments against vaccination has always been this one,—that by inoculation with the vaccine virus not only cow-pox was caught but other diseases besides, such as scrofula, phthisis, eczema, syphilis, &c. Simple

denial was for a long time given to this argument, but it is now found that the time for simple denial has passed away. Whatever is to be said for or against the possibility of infection with tuberculous or scrofulous matter, so many facts or quasi facts are brought forward proving the possibility of syphilitic infection that attention on the part of the profession has been forced to the subject. That syphilis should be communicated to children by vaccination is sufficient to startle every doctor and father, and to lead them to take precautions they have down to this time never dreamed of taking. But they must first be satisfied that such a thing is possible.

M. Lancereaux tells us that, so far back as 1805, this vaccination risk was first pointed out in England by B. Moseley, in a work entitled, *A Treatise on the Lues Bovilla or Cow-pox*, and, in the following year, by W. Rowly, in his *Commentaries on the Lues Bovilla or Cow-pox*. Eight years later, in 1814, the same subject was treated of in Italy by Monteggia and Marcolini. A case given by the latter is to this effect. "A little girl born of syphilitic parents served for vaccination of ten children, June 16, 1814; on the 30th of the same month thirty others were vaccinated, making forty in all; of these several died of confirmed syphilis; some of the children had both syphilis and cow-pox." Lancereaux quotes another case which I shall give. "In 1841, a child in the neighbourhood of Cremona, born of syphilitic parents, furnished lymph for sixty-four children, and most of these children had symptoms of general syphilis. Neither were the mothers nor nurses spared. Of the sixty-four vaccinated fifty-four recovered, and eight children and two women died; the child which caused the infection finally died dropsical, after having presented various eruptions on the skin and syphilitic ulcers on the genital organs and scrotum." A little later, in 1849, the fact of such contamination was recognised by the Prussian Government, who fined a Coblentz surgeon fifty dollars and sentenced him to two years' imprisonment for having vaccinated with matter, which the result proved to be syphilitic, twenty-four persons, nineteen of whom contracted syphilis. Lancereaux

gives several other cases, all proving to his satisfaction that such contamination can take place. He then comes down to 1861, and gives us some particulars relating to what is known as the Rivalta case, a case which may be said to have been the first to force the attention of our English surgeons to the subject; not that it convinced them that vaccine matter could convey two diseases, cow-pox and syphilis, but it prepared their minds to be convinced by other proofs which came in afterwards presented by some of themselves. It may be as well to give this celebrated case in some detail.

The new Sydenham Society's *Year Book* of 1861, at page 135, has the following paragraph:—"G. C—, æt 11 months, was vaccinated, being in good health, with lymph contained in a tube sent from Acqui. Ten days after, forty-six children were vaccinated from G. C—, and ten days later seventeen more from one of the forty-six. Of the first forty-seven, including G. C—, thirty-nine became affected with syphilis, and of the seventeen seven. At the time of the report seven had died, three were in danger, and fourteen recovered under anti-syphilitic treatment. Pacchotti (the reporter of these facts) warns against using lymph contaminated with pus or blood, and advises careful inquiry as to the source of the lymph."

In the following *Year Book*, that of 1862, there is additional information given upon this case corroborating the facts given before. The child originally vaccinated, and from whom the others of the first lot were vaccinated, suffered severely, but circumstances prevented a close examination into its history. The child from whom the second lot were vaccinated died from an "unknown" cause within a month afterwards. A committee was appointed by a medical congress to investigate the matter. "It was related to the committee that in some of the cases the vaccine vesicle, instead of cicatrising, extended and began to suppurate anew, becoming surrounded about the twentieth day by a red, livid, or copper-coloured areola. In other cases ulceration was re-established after complete cicatrization, and in some of these instances it was accompanied by

a general eruption, confounded by the peasantry with small-pox. On the 7th day of October six had died without treatment, three were in a state of marasmus, and fourteen were improving decidedly under a treatment which consisted in mercurial frictions and *Iodide of Potassium* in small doses. The symptoms actually existing at the period of the inquiry were as follows :—Mucous patches at the margin of the anus and on the external organs of generation, syphilitic ulcerations of the mucous membranes of the lips and of the isthmus of the fauces, affections of the inguinal and cervical lymphatic glands, syphilitic eruptions, and alopecia. It was ascertained that the child first vaccinated was in vigorous health, and had a fine constitution. Nothing, either in his own antecedents or in those of his parents, justified the slightest suspicion of previous infection. The committee were unable to obtain any information as to the origin of the lymph contained in the tube from Acqui.”

It was further ascertained that “among forty-six mothers or nurses of infected children no less than twenty, who were perfectly healthy at the period of the first vaccination (October 7th), were, on the 8th of February, affected with secondary symptoms.” An experiment was made to discover whether the syphilised children had been properly vaccinated or whether the syphilitic virus had not destroyed the vaccine. Five of the children were carefully vaccinated and with a negative result, proving that the vaccine lymph had not been deprived of its virtue. As the original child, Chiabrera, was not a sufferer from hereditary syphilis, and as the history of the lymph procured at Acqui could not be ascertained, Dr. Pacchiotti failed in tracing the syphilis further back than to the first infant. He certainly gives as its probable source a syphilitic woman who frequently nursed the child, but some doubt as to this source may reasonably be expressed if he gives us all the information he possesses with reference to it.

To continue the history of vaccino-syphilis down to the present time it is necessary now to give a series of cases reported by Mr. Jonathan Hutchinson which have gone further to open the eyes of the profession in this country to

the possibility of this great evil than all that had previously been written or said.

On February 7th, 1871, thirteen adults were vaccinated from a healthy-looking infant. The operation succeeded in all with one exception. The rest, with two exceptions, were affected with chancres which appeared on the scars left behind on the arms. They, the chancres, first showed themselves about the fifth and sixth week after the vaccination. On being carefully examined, the vaccinifer, or child from whom the vaccine virus had been taken, proved to have condylomata at the anus, but it had betrayed at the time of the vaccination no signs of inherited syphilis. In all the infected a cure was being accomplished, at the time of the report, by mercurial treatment. The two exceptions to the infected were the two who were first vaccinated, and it was observed that, at the operation, blood was drawn from the arm of the vaccinifer. Mr. Hutchinson's final report on those cases comes down to the fourteenth week subsequent to the operation, and is to this effect:—the sores are all healed, no sore throat, no rash, some cicatrices are hard and axillary glands still indurated. The above is taken from the *Medical Times and Gazette* of May 6 and 13th, 1871.

The same journal, of date February 1st of this year, contains more information on the same subject from Mr. Hutchinson. His two cases there reported are even more convincing than those the history of which has just been given. The first is that of a man forty-six years of age who never had contracted syphilis. His symptoms were, double iritis, ulcers on the tonsils, a rash over the whole body, no signs of syphilis on the genital organs, hard-edged ulcers on the arm, and bubo in the axilla. He had been successfully vaccinated three months before, and the above symptoms had all appeared since the date of that vaccination. One month afterwards, when the sores of the operation had almost healed, the present ulcers showed themselves on the arm. Two weeks later the rash appeared. Four weeks later still, the iritis seized the eyes and was in due course cured by *Mercury*. There were twelve others vaccinated from the same child and

none of them suffered but two, and they only from the sores healing with difficulty. In this case the vaccinifer appeared to be perfectly healthy. There was only one sign of inherited syphilis, "the markedly sunken bridge of the nose," which, in Mr. Hutchinson's opinion, is a good diagnostic indication.

The second case is the following:—A lady, æt. 45, consulted Mr. Hutchinson for a vascular growth on the urethra, and a syphilitic rash on the skin. She had been vaccinated eighteen months before, and had been affected afterwards with inflammation of one eye and a skin rash. Synechiæ, on examination, were found in the left eye, which proved that iritis had previously affected it. At the seat of one of the vaccination punctures a dusky scar is visible, having an appearance very different from that of a normal vaccine cicatrix. The vaccination operation in this case had not been a successful one, and one of four punctures, a month afterwards, inflamed, and became a hard-edged ulcer, which lasted three months. Two months after vaccination a rash appeared, and thirteen months later still the iritis. Following the iritis, the rash, which had nearly disappeared, developed itself again over the body. Two daughters of this lady were vaccinated at the same time and from the same infant, and neither suffered afterwards in any way. The vaccinifer was, to all appearance, a healthy child, but showed on the anus, a few months afterwards, a few "troublesome sores."

Two more cases only shall be given here to complete the history of the question. The first is one which attracted much attention, and which was reported in the *Med. Times and Gaz.* of December 17th, 1870. The case was in the hands of Mr. T. Smith, and its particulars were given by him to one of the medical societies. They were to the effect that a man was vaccinated by him from a child, who, to all appearance, was in good health. Four punctures were made on one of his arms. In due time a chancre appeared on one of the four scars, and secondaries followed afterwards. The child after a time showed symptoms of syphilis. The second is given in the following letter:—

"SIR,—I beg. to forward to you some particulars of a case of syphilitic psoriasis in which I have been consulted:—A. W—, born April, 1863, of healthy parents, who are still alive and well; he is the fourth child of seven in family, the rest being all in robust health. He was quite well until he was vaccinated at the age of three months; four weeks after an eruption appeared on the forehead, and subsequently on the extremities and body, and it has continued from year to year ever since, more or less, except the year 1870 (his seventh year), when there was a marked abatement. He still manifests the peculiar cachectic appearance of constitutional syphilis, and this year has suffered more than usual from large blotches of copper-coloured psoriasis on the vaccinated arm, the chest, abdomen, and lower extremities, and his general health is more impaired. During the last fortnight the eruption has been gradually yielding to ordinary treatment.—COOPER H. CRAWFORD, M.D.—*Med. Times and Gaz.*, May 17th, 1873."

One would think that any single case of the many I have given of syphilis communicated by vaccine lymph would have been sufficient to convince any one of the more than possibility of such poisoning. The aggregate of cases, at all events, must surely make an impression on the non-believers in such infection. But that is far from being the case. There is no doubt that many who before stoutly maintained the impossibility of vaccino-syphilis, have been made converts to the views of those who have maintained it, convinced by such facts as those given above. But they are few compared with the numbers who wilfully shut their eyes and their minds to a danger which they refuse to recognise. But it is time to ask, what are the objections urged against what, to the unprejudiced, are unmistakeable facts?

Some of these I shall now proceed to give. There is, in the first place, the objection that the facts are not facts, an objection which it is sometimes rather difficult to meet. Carefully reported cases, whose authors we know as edu-

cated and trustworthy members of the profession, and whose testimony would be at once accepted on any scientific question without misgiving, ought to be accepted as given *bond fide*, even when controversial points are involved in them. Science would come to a standstill if the refusal to believe and to examine into facts which are new became the rule. The word "impossible," strangely enough, is sometimes urged as an answer to the facts. Dr. Anstie, in the third volume of the *Practitioner*, declares that there is not only no proof that syphilis can be communicated by vaccination, but that there are grounds for "philosophic disbelief" as to the possibility of syphilis being so communicated. One may safely entertain philosophic disbelief in the philosophy of Dr. Anstie. The fact is, that a large proportion of objectors content themselves with simply saying, "No, I can't and I won't believe it, for the thing is impossible." M. Ricord, who is recognised in this country, as well as on the continent, as a great authority on all questions relating to syphilis, at one time made use of the word "impossible." After a time he gave a more qualified opinion, to this effect—"It is not possible to determine what is the true door of entrance of the syphilitic poison, but there need be no apprehension of the transmission of syphilis by vaccination until some more positive facts are recorded in its favour." A still more qualified opinion is given later by M. Ricord; such infection is not impossible, he says, but it happens so rarely that it should not be taken into account. Many of our authorities in this country are passing through the stages from incredulity to belief, and the difference in the tone of the leading medical journals at the present time and a few years back is very striking.

A common objection is that in most of the recorded cases of syphilis derived from vaccination a considerable number of those vaccinated from the diseased vaccinifer escaped the infection. In answer to this, pains have been taken to prove, and sometimes not very satisfactorily, that those who escaped were among the first who were vaccinated. By those giving this explanation, it is believed

that the first contents of a vesicle are pure vaccine lymph only, but that when the vesicle is scraped or squeezed for more lymph something else besides lymph is conveyed on the point of the lancet—pus, or blood-serum, or blood itself, for instance—and that it is the latter and not the vaccine lymph which is the infecting agent. But it is not necessary to explain in this way the immunity of some of the vaccinated from a syphilitic child. Of the many exposed to contagion and infection every day a certain proportion only suffer, a fact which does not force us to the conclusion that there is neither infection nor contagion. It is sufficient to say that an individual is not infected however much he may be placed in the atmosphere of infection unless he has in himself a susceptibility to the infecting agent, a soil for it to grow in. It is believed that when some escape and others suffer there is proof that the syphilitic poison cannot be in the vaccine lymph or is very unequally diffused through it. But, to say nothing of the difficulty of accounting for the syphilitic infection except by the vaccination, it is sufficient to repeat what has just been said as to the favorable soil for the growth of the poison.

Another objection is a natural one. Syphilis is granted as a sequence to vaccination, but it was not communicated by vaccination, it was only developed by it. The disease was there and the operation started it into existence. There can be no doubt that this is not only possible but probable, and that latent syphilis is frequently brought into existence in this way. But there is this difference. Whereas vaccino-syphilis shows itself in the primary form, in the shape of a hard chancre at the seat of the operation punctures, latent syphilis betrays itself in the shape of secondaries, and, generally, on different parts of the body. Some of the objectors to Mr. Hutchinson's cases urged this difficulty. The "dusky scar" which appeared to him to prove the former existence of primary syphilis at the part is declared not to "mean much;" it is just such a scar, it is said, as is often seen after vaccination or revaccination if inflammation and ulceration have followed the operation,

especially in syphilitic persons. It is not sufficient to say that lymph from syphilitic infants must have been used millions of times for vaccination purposes without syphilis being communicated, for a single case of unmistakeable contamination must outweigh the millions of negative ones. But it is not unlikely that facts will come out now that general attention is attracted to this danger, which will satisfy most that disease has in past times been conveyed from child to child without recognition, or, if with recognition, without the fact being declared. We all know how very common a statement on a mother's part it is—"There was nothing wrong with my child till it was vaccinated, and it has never been well since,"—and that not asserted as a condemnation of vaccination, but simply as a fact. That such a statement could be made with truth in many cases I believe there can be no doubt. Mr. Startin, the well-known skin-specialist, has said that he has known prurigo and scabies as well as syphilis conveyed from one child to another in vaccine lymph. If it can be proved that one disease is communicable in that way it is not illogical to conclude that any disease may.

A committee of the Clinical Society which investigated the case of Mr. T. Smith reported above could only object to it that syphilis might have accidentally attacked the man's arm wounded by the vaccination punctures, by such accidents as foul lancets, dirty fingers or rags, or, that lesions were called syphilitic which were simply vaccine scars. M. Latour gives as the result of a long debate in the Academy of Medicine at Paris, that "There does not exist a single authentic example of vaccinal-syphilis, properly so called," and that the few cases quoted as such may be easily explained away without throwing blame on the vaccine virus, and that doubtful diagnosis is the proper explanation for most of them.

The experiments of Sigmund and Freidinger have been supposed to furnish proof against the possibility of syphilis and the vaccine disease being conveyed in the same lymph. They inoculated with lymph which contained vaccine matter and that from a chancre with the result of pro-

ducing a chancre only. From this their conclusion was that the two viruses could not be conveyed together, for that, if they were, the syphilitic poison would destroy the vaccine virus. But, independently of the fact that experience has shown that both diseases are conveyed at one and the same time by one and the same lymph, those experiments have been repeated by Professor Sperino, of Turin, with another result altogether. He inoculated with the same compound matter made use of by Sigmund and Freidinger. After the usual period of incubation appeared the vaccine disease, and then, after an interval of longer incubation, the syphilitic affection. In the first set of cases it is possible that the subjects may have been protected from cow-pox by previous vaccination or by an attack of smallpox.

There is a considerable number who grant the fact of vaccination being followed by syphilis, but maintain the impossibility of such infection unless the lymph is mixed with blood. Dr. W. Krassilnikoff says that syphilis cannot be communicated if no blood is mixed with the lymph, but may be so if blood is present. The cow-pox develops first, and syphilis afterwards shows itself in the shape of a chancre at the seat of inoculation, and, finally, secondaries present themselves. Dr. Bohn has come to much the same conclusion; no blood no syphilis, he says. This is also the opinion of M. Viennois, both denying that disease can be communicated by pure, unmixed lymph. The *Med. Times and Gazette* of February 1st last writes to the same effect. "In the meantime it is generally agreed that the vaccine lymph, even of a syphilitic child, if perfectly pure, cannot communicate syphilis from one individual to another." The risk is when "blood-corpuscles, red or white, or other formed material, enter into the blood used for vaccination." Dr. Millies says, nevertheless, that "In the communication of syphilis through vaccination the commingled blood is not the contaminating medium." Dr. Harley's opinion is that the disease cannot be conveyed in vaccine lymph, but grants that in pus-corpuscles it may, or in fluid that has been squeezed from the wall of a vesicle.

The *Lancet*, also, follows in the same suit, and asserts that, though there is no denying the fact of vaccino-syphilis, blood or serum, and not lymph, is the infecting agent. But, with reference to this matter of blood-poisoning, M. Ricord says, "Erroneous explanations of the occurrence of vaccinal syphilis have been founded on the supposition that the syphilitic blood has been inoculated with the virus. It would require a very dextrous operator indeed to take the lymph unaccompanied by blood; for in the purest specimens the microscope always detects blood-globules. It is of importance that this should be borne in mind, for an operator might be ignorantly blamed for omitting precautions to prevent the presence of blood, which it may be impossible to avoid." If this is true, all those who allow that syphilis can be conveyed in vaccine lymph, if that lymph is mixed with blood, must be classed among those who grant the danger of vaccinating from a syphilitic child even though they stoutly maintain that there is no risk if there is no blood. But it appears to me—that if it is granted that the blood of secondaries infects, and it is so granted by most—then there should be no difficulty in coming to the conclusion that vaccination from a child tainted with hereditary syphilis may readily infect those to whose arms its lymph has been conveyed.

But though objectors to vaccino-syphilis are many, forming a great majority of the profession, in fact, there is a minority who recognise the fact and the danger, and who believe that the more both are allowed the more likely is it that such precautions will be taken as shall secure against such contamination for the future. "The public," says Mr. Brudenel Carter, "would not receive the full benefits of vaccination until the dangers connected with it were candidly admitted, dispassionately studied, and carefully guarded against."

M. De Paul was the first to bring before the French Academy of Medicine this subject, and a storm of opposition he encountered in consequence. But he brought forward so many proofs to establish his position—syphilitic infection by means of vaccine lymph—that he brought

round several to his opinion, the late M. Trousseau among others. He answered the numerous objections that were brought against him satisfactorily. That the syphilis recognised might have originated in some other way than by means of the lymph: to this objection his reply is that it shows itself as a chancre on the spot of inoculation. That the disease in the vaccinifer cannot always be accounted for: the reply is that it is sufficiently often accounted for. That many vaccinated escape with impunity: to such objection the reply is that such happens in the case of all inoculations. That experiments have been made with lymph from syphilitic children without syphilis being communicated: the answer to this is that negative facts do not neutralise positive ones. M. De Paul, also, objects to the idea that blood is necessary to convey the infection, that is to say, visible blood, and strongly advises that lymph should never be taken from the arm of a child less than two months old, as he believes that by that time the risk of hereditary syphilis is passed.

With regard to the Rivalta case the particulars of which have been given and which has convinced and which ought to convince many, M. Ricord represents numbers of objectors when he declares it not to be conclusive. But he can say nothing more against it than this, that the syphilis in the numbers who were infected was accidental merely, and that it stood in no kind of relationship to the vaccination. But it has been well said that this supposition "is conclusively negatived by the fact that in two batches of children, vaccinated simultaneously at an interval of ten days (all of the first batch being vaccinated from one arm, and one of them yielding lymph for the vaccination of the whole of the second batch), the infection manifested itself by the same succession of syphilitic phenomena."

Some attention was paid to this question so far back as 1855, when the London Board of Health was induced to act. It addressed to 539 medical men and societies, in different parts of England, a number of questions, one of which was the following:—"Have you ever seen any grounds for believing or suspecting that lymph taken from

a perfect Jennerian vesicle can become the vesicle for infecting a vaccinated person with syphilis?" The answers to this question which were received may be divided into four groups. In the first, the answer was a direct negative; in the second, the possibility of such infection is combated on the ground of direct evidence; in the third, it is suggested, as a question, whether the contents of a vaccine vesicle in a syphilitic person may not be infectious as well as the blood; and in the fourth, cases of infection are granted but are declared to be singular and exceptional. It will thus be seen that at that date the question was left where it was.

A medical committee was appointed by the Medico-Chirurgical Society of London to investigate into the cases brought forward by Mr. Hutchinson. The result was that Mr. Hutchinson was declared to have proved his case, that syphilis certainly had been conveyed by vaccination, but whether lymph or blood was the vehicle of transmission, or both, was not made clear. This, it will be seen, is a granting of the whole question by a representative medical body, a great advance on the state of medical opinion a few years ago. But the question cannot rest where it is. If it is too much to expect the Medical Officer of the Privy Council, Mr. Simon, to reconsider the advice he has on more than one occasion given Government, to the effect that vaccination should be made compulsory and its neglect a penal offence, and to give other advice grounded on the report of the Medico-Chirurgical Society, just quoted; if it is too much to expect him to do this, it is the duty, it appears to me, of that body to memorialise Government in the matter. It should be clearly stated that the profession is satisfied that disease, other than cow-pox, is communicable to a child in the operation of vaccination, and that it is not sufficient to reply that such disease would never be communicated if proper care were taken. In the first place, it is too much to expect that proper care shall in every instance be taken. In the second place, the greatest possible care may be taken by the most skilled of operators and yet vaccination result in blood-poisoning. It

is impossible, at sight, and even after careful examination, to pronounce a vaccinifer perfectly healthy. A child may contain the germs of disease in its body not to be detected without such a close examination as it would be too much to expect surgeons to make. But a diseased child may contaminate a healthy one and convey to it, in matter taken from a vaccine pustule, syphilis, or eczema, or scrofula.

The conclusion to be drawn, partly from admitted facts and partly from even the doubtful ones, is, that our vaccination laws are too absolute. It should be represented to Government that in the present state of the vaccination question it is more than cruel, it is unjust to fine or imprison a man for not exposing his child to such risks as the operation is admitted to involve. It is not sufficient to say that in ninety-nine cases out of a hundred there is no risk. When the risk in the one case is so formidable, it is too much to expect a man to expose his child to it even when he may feel strongly that vaccination does protect from smallpox. But many object to the operation not only because it is one of risk and danger, but because it is not a protective against smallpox. Though not sympathising with this view of vaccination I believe it is one that a man should not be punished for holding. The vaccination laws are contrary to the spirit of English legislation. They not only express the will of the majority only on the question concerned; it is not too much to say that all laws do that: but these laws fine and punish for disobedience, though scientific opinion is not settled as to whether vaccination is an absolute protective against smallpox, and whether the risks involved in vaccination do not constitute a danger as great as smallpox itself. Such being the case it is not too much to say that legislation has been hasty in this matter, and it is not too much to hope that the laws complained of will be repealed. The attention of Parliament has only to be strongly directed to the fact that, notwithstanding the almost universal prevalence of the practice of vaccination in Europe, an epidemic of smallpox has lately spread over every country in it, the mortality of which, to say the least,

has been considerable ; and to the other fact, attested by the Medico-Chirurgical Society of London, that vaccination is sometimes the agent by which serious disease is conveyed to the vaccinated ; and to the third fact, that an increasing body of the people, and not merely the uneducated and ignorant and prejudiced, complains bitterly of the hardship and severity of the laws to enforce vaccination ; and, when so directed, it is not too much to say that the said laws run a good chance of being reviewed and modified if not repealed.

Before concluding it will be as well to say that many surgeons have for a long time granted the risks attendant upon vaccination, and insisted that the operation is one which should always be accompanied by certain precautions. Such precautions are the following, which, if taken, no harm, it is maintained, can result to the vaccinated.

Vaccine lymph should not be taken from an adult, in consequence of the greater likelihood of disease of some kind affecting the full-grown man. Nor should it be taken from a child under three months old. It is supposed, but opinion is not unanimous on the point, that hereditary syphilis betrays its existence before an infant has attained that age ; and, consequently, that a vaccinifer over that age cannot contaminate another, with syphilis, at all events. A child should be examined from head to foot before it is vaccinated from, and the health of its father and mother should be known. The surgeon's hands and the lancet made use of to convey the virus to be scrupulously clean. The punctures must not, to allay irritation, be touched with rags or with saliva, a common practice with old-fashioned and dirty nurses. No lymph to be made use of that is not clear and limpid, and that does not flow easily from the puncture, and that is mixed with blood. The needle is recommended by some instead of the lancet, as it conveys a smaller quantity of the lymph, and so is supposed to expose the vaccinated to less risk. The best precaution of all, according to some, is going to headquarters for the lymph, to the heifer or calf, and Government, it is maintained, should furnish the animals for the purpose. An answer to this is furnished by an experiment

which was made in Paris in the beginning of 1870. In consequence of a panic which seized the inhabitants on the subject of syphilitic and other contamination by means of vaccination, heifer vaccination was largely had recourse to. The result was not satisfactory. Twelve out of thirteen vaccinations failed. When revaccination was performed it succeeded in sixteen per cent. and in thirty-two per cent. when the Jennerian virus was employed. Another precaution is, never to take lymph from an inflamed or opaque vesicle, or from a nearly empty one, or when it is necessary to squeeze it or scrape its walls for more matter. These precautions being taken it is confidently asserted by many that vaccination can be performed without any kind of risk to the person operated on. But, putting aside the objection that it is not likely that all surgeons will take the pains to observe all the necessary precautions, it may safely be said that, notwithstanding every precaution which experience and science can suggest, blood-poisoning may be the result of the operation of vaccination. It is impossible to assert that a vaccinifer is perfectly healthy, or that its father and mother are so, to say nothing of its grandmother and grandfather. There never, therefore, can be any security against the communication of disease by this operation. And yet positive legislation enacts pains and penalties to enforce vaccination, as if such could only prove a blessing to the recipient and to the community.

This very important question would be greatly simplified if we could adopt the remedy against smallpox which has been suggested by certain individuals. In the 13th volume of the *British Journal of Homœopathy*, page 172, there is an account of Bönninghausen's views on the subject of smallpox and its treatment and prevention. He proposed to the "Rhenish and Westphalian Homœopathic Society" the following questions:—1. Is vaccination a boon or an evil to humanity? 2. Do the governments act rightly in enforcing vaccination? 3. Has homœopathy the means of rendering it efficacious and of restoring its virtues? 4. Can we find a real substitute for vaccination, supposing it should be prohibited?

To the first question the reply was to the effect that, as at present practised, vaccination is an evil. To the second, that governments have no right to enforce vaccination except the virus is taken from the cow. To the third, not yet; and, to the fourth,—“Yes! one of our own colleagues (Bönninghausen) has had the happiness to discover in the *Thuja occidentalis* the true specific for smallpox, and since this happy discovery, which was immediately published in the homœopathic journals, several physicians have had the opportunity to put it to the proof and to confirm its truth. A remedy of sufficient power to cure this disease without inconvenience and without the least danger in less than eight days, without leaving the least disfigurement or mark upon the skin, and without introducing into the human body the seeds of another disease, often worse than the smallpox itself, seems to us to be preferable to any kind of vaccination, even to that where the virus has been taken immediately from the cow.” Could Bönninghausen’s assertions be in part only established it would assuredly appear, not only to the above-named society, but to most reasonable people at the present time, that *Thuja* was “preferable to any kind of vaccination.” Could we be satisfied that smallpox is curable by that medicine in eight days, and that without pitting of any kind or introducing into the body the germs of other diseases, compulsory vaccination laws would soon be abrogated, and all discussions and controversies on the subject of good and bad virus, and diseased and healthy vaccinifers, and the possibility of syphilitic and other contamination, would be rendered unnecessary. But *Thuja* has been tried and been found wanting, otherwise it would, long before this, have been as universally employed in smallpox as vaccination is for the prevention of that disease.

In the same volume of the *British Journal of Homœopathy*, page 500, are given the views of Dr. Lutze, of Coethen, on our subject. His opinion is that so far from governments sanctioning and enforcing vaccination they should forbid it. His substitute for vaccination is a globule of the 30th dilution of *varioline*, a substitute which is thus ably

commented on by the writer of the paper introducing the notice of Dr. Lutze's views:—"Were it as successful as we believe it to be futile, we do not see how matters could thereby be improved; for if vaccine lymph is to be rejected on account of its supposed impurity, occasioned by transmission through human beings, we do not see how variolous matter can be a bit more pure, as it is obtained also from human beings, who may have all sorts of latent psoric taints lurking in their system, which might be as readily communicated to the variolous as to the vaccine matter." It appears to me that this argument against the use of *varioline* is unanswerable, and the stronger argument of inutility may be urged, as we may take it for granted we should have heard of its success before this had there been any success to record.

Dr. Garth Wilkinson believes that in *Hydrastis Canadensis* we have not only a good remedy in smallpox, but "perhaps" a prophylactic against it, that is, "a medicinal counterpart to vaccination." Smallpox has, unhappily, been very prevalent in London for some time past, and plenty of opportunities have been furnished for the testing of the truth of this. But neither in our own nor other journals have I seen notice of any experiments which have been made with *Hydrastis* as a prophylactic or a remedy. The question as to its power and use must, therefore, be considered unsettled.

THE THEORY OF DYNAMISATION.

By MR. PROCTOR.

THE discussion of this subject has had, in English homœopathic literature, a pretty long rest, counting time by the intellectual activity of the age, during which experience has been steadily registering its results, and it might be questioned whether it is desirable to say anything at

present on a subject which seems undeterminable. Facts might be allowed to accumulate, and by their mere pressure mould our opinions without any effort on our part, if the discursive intellect would remain passive, but this it will not do, for it continues to play round our facts, and marshal them into system as irresistibly now as in Hahnemann's time; and it may be safely predicted that the theoretical views of homœopathy must be reconsidered from time to time, until they fit all the facts and harmonize with the rest of our scientific knowledge. The history of homœopathy has been clouded with speculation, and naturally, for it is not in the nature of the mind to witness the marvellous efficacy of the small dose without casting about for some method of explaining it. At present three opinions seem to prevail—1st, that our medicines acquire additional energy from their mode of preparation. This is the oldest notion, and was Hahnemann's. 2nd, that the susceptibilities of the organism are greatly increased in disease. This is of later birth. And 3rd, that which perhaps finds the widest acceptance, viz. that the results are due simply to the exact or specific adaptation of ordinary medicinal powers to the processes of disease. To use an analogy, the mechanism of a lock acquires no new susceptibility to pressure when it fastens a door, nor the key any increase of energy, but when this is nicely fitted and oiled a slight pressure throws back the bolt.

It is not unimportant what view we adopt, for we look at facts to a greater degree through the coloured medium of our preconceptions, and abstract principles are the basis of all great changes in medicine, for its history shows that change of treatment has seldom originated in the want of success of any system, but has been due to the recognition of new principles regarding the nature of life, disease, or medicinal action, drawn from other sources than clinical experience. It becomes, therefore, of the first importance to entertain right opinions as to medicinal powers, or at least to try to avoid being egregiously wrong.

It is upon the first of the above hypotheses that the following remarks are made:—a matter of great conse-

quence when we consider that its adoption is the cause of a number of our school grouping themselves together, a step, and a large step, beyond the natural divergences which a science like medicine is apt to create in minds of different constitution. The records of the modern high-dilution practice will hardly support the pretension that it has been deduced from careful experimental observation, and that the observers have gone sounding on their dim and extremely perilous way, but it would appear that, feeling assured of the truth of their principle, they have pushed rapidly on, and with incredible temerity crossed such immense distances *per saltum* in the way of dilution, that the mind shrinks from their plain numerical expression, and hides its stupendous conceptions under such simple-looking formulæ as 2^c and 2^m . It is even said that if such preparations should prove to be the best, it would be the crowning glory of homœopathy, but to us it would rather appear to be as unfortunate a discovery as for Blondin's method of traversing the air to be proved to be the only true mode of progression, seeing that it would infinitely increase the labour of preparing our medicines, and render us liable to mishap without a check at every step. Surely facility, simplicity, and certainty are the true desiderata in therapeutics.

It is not here intended to discuss the clinical experiments with even the highest dilutions, as they are subject to but one test, viz. repeated demonstration with all the safeguards against error. We shall deal with the theory only, and but one aspect of that, as believing that it draws strong support from the analogies of physical science. The very definite expression of this idea by Dr. Dixon in the *Homœop. Rev.*, September, 1872, is quite to the point.

"My notion is that every drug is a force naturally involved in matter, and that this force can be imparted by methods to some other matter, as the force of a magnetic stone can be imparted by a method to a steel bar; that the special force of a drug is in a 200th potency, but in a different degree from that in the drug, and that in certain

cases the former may be as efficient as, nay, more so, than the latter, and *vice versa*."

There is evidently no intention here of instituting a close parallel between magnetism and dynamisation, for in the illustration the communication of force is from one mass of the same metal to another, a very different thing from *Belladonna* communicating medicinal qualities to alcohol or sugar of milk, a flaw which breaks the analogy at the outset. Nor is it intended to imply that dynamisation, like magnetism, can be effected at a distance. The idea vaguely is that as heat, light, magnetism, &c., are capable of exciting similar states in other bodies by contact, radiation, and the like, there is no improbability that medicines may do the same. Modern revelations regarding the transference of force give strength to the supposition, and it becomes necessary to show where the argument fails.

The forces here referred to are the protean aspects of some unity of power which is not essential to the elementary constitution of matter, and which is able to visit and agitate all forms of matter, and leave them again with their essential properties unchanged and unimpaired, acting, as is supposed, most probably in some mechanical manner. The elementary powers, on the other hand, are non-transferable and non-convertible; they are the inalienable possession of the special kinds of matter, and hence are termed properties. Magnetism belongs to the fugacious forces, while the medicinal properties of *Arsenicum* and *Belladonna* are inherent. That this is the case we have only to reflect for a moment.

If we take any substance that will bear the test without destroying its constitution, say *Iron*, or *Phosphorus*, or *Iodine*, we find that after submitting it to the test-tube, the blowpipe, the retort, and chemical solvents, after combining and reseparating it *ad infinitum*, it presents itself in its pristine integrity. The properties that belong to it have accompanied it through all its transformations, and could no more be destroyed than the substance itself. This shows

that properties are inseparable from the matter, and therefore incommunicable to other matter. If it were not so, if contact were a means of communication of properties, identity would be lost, elementary distinction would in an instant cease to exist, and the universe of things would become fluent and rush into a homogeneous mass.

But as our drugs possess active chemical and other affinities, it may be asked what are these powers doing? The substances are submitted to trituration and dilution. Do they not effect chemical changes in the alcohol and sugar of milk? The answer is that in so far as they tend to do so they lose their special qualities, for combination is attended with change of medicinal powers, and we purposely select an inert vehicle to preserve the original drug in as free and uncombined a state as possible. It is this very liability that renders it impossible to dilute some medicines, such as mineral acids, with alcohol.

The catalytic power of some bodies is well known, and the thought may occur, if a drug may not impart its own properties to any other body, what is to prevent its setting up some catalytic change of an assimilative kind in the vehicle? This is answered in a word. Spongy platinum causes oxygen and hydrogen to combine, indeed; but they form *water*, not additional atoms of platinum. There is, however, one form of matter in combination that does possess the power of conferring a similar constitution upon other matter not so endowed, *i. e.* living beings. The comparison between vitality and dynamisation cannot, however, be entertained for a moment, as there is not the shadow of a presumption in its favour.

If it were possible that this theory of dynamisation could be true some of the logical results would be perplexing. We are to suppose that the properties, *i. e.* the "spirit," of a grain of *Belladonna* might be "liberated" by trituration or succussion, which would, according to the laws of physical force, leave the drug depotentised. The drug, whilst retaining its physical properties, would have lost its medicinal ones, and the vehicle, whilst retaining its former physical properties, would

have taken up the medicinal ones of *Belladonna*. This is none other than the doctrine of Transubstantiation, with its dialectical explanation of a change of Substance with a retention of the Accidents, and we did not expect to see it reappearing in this century in a scientific dress. It does not, however, appear to be settled by the high dilutionists whether, in communicating its "spirit" to an inert substance, the drug becomes exhausted thereby, or whether there is a perpetual regeneration of it going on to balance the loss. In the former case the higher the dilution the weaker would the drug become by loss of medicinal power, until it were as completely depotentised as a burnt-out cinder in regard to heat. In the latter case, that a body should impart its forces to other matter without suffering loss would contradict the great law of dynamics—no work done without an equivalent expenditure of force. Again, the analogy between magnetism and dynamisation is not assumed to hold good in the transmission of the force through space. Contact is thought to be necessary in the latter case, else we might potentise a phial of pilules as easily from the outside as the inside. Therefore, whilst desiring only the emancipated spirit of a drug, our clumsy method of preparation continues to be adopted, which allows a certain quantity of the substance to be included, and thus renders the spiritual voice equivocal when it tells of its achievements. Instead of being able to say "*I removed a congestion of the brain,*" it must say "*We,*" viz. "*myself, assisted by a few insignificant particles of Belladonna, having no Spirit to speak of.*"

Looked at from all sides, and doing the fullest justice to the analogies adduced in favour of the theory of dynamisation as here held, we must pronounce the verdict of physical science to be against it. But we have metaphysical speculations also brought in to assist the mind in realising the theory in some comprehensible manner. When experimental demonstration fails the imagination is called into play. We may glance at the opinions of Hartlaub and Guernsey on this matter. The former writes thus:—"In homœopathy it is not with small

doses that we have to do, but with immaterial doses. These are the peculiarity of homœopathy." And again, "The homœopathic preparation of medicines has for its object, not the dilution nor the decomposition of the matter, but the removal of it altogether." And again:—"To constitute true homœopathy we reckon not only the *simile* strictly according to provings in the healthy, as well as single medicines without any foreign admixture, but also the immaterial dose which is that without which the total mass has neither spirit nor life" ('Allgem. Hom. Zeitung,' August, 1872).

Guernsey writes—"The doctrine of individual specifics is therefore truly scientific, since it harmonises the results of practical experience with well-established principles, and even with those profounder explorations of our being in which matter is seen to fade into spirit and physiology to be replaced by psychology" ('Obstetrics,' p. 895).

Here we are assured, on the one hand, that matter can be made to fade into spirit, and, on the other, that it is necessary to use medicines which have thus been made to fade. Spirit is thus regarded as matter highly rarified by dilution; the particles, when reduced to an atomic fineness, cease to exist as material atoms, and become disembodied force, with the property, we suppose, of being able to be recondensed into palpable substance. This is but a materialistic kind of spirit akin to that born of the chemist's retort, and in no manner expresses the scientific conception of force, which is quite distinct from the conception of matter, and in no wise to be confounded with it. The distinction must be maintained or physical science will become a mass of confusion. By the *spirit* of a drug we understand its medicinal properties, and how the substance of a drug can fade into its properties is a more difficult conception than that of Peter Schlemil's losing his shadow; for the idea is exactly reversed—we lose the substance but retain the shadow, the property of the substance. If we have the assurance of anything, it is that matter cannot be made to fade into anything else; but that at the close of the longest cycle of transformations it remains indestructibly the same.

To use terms with new significance and to call in the aid of unfounded hypothesis to account for phenomena is a sure means of arresting the advance of knowledge. This process has also the disadvantage of repelling scientific minds of the profession at large from the study of homœopathy, for by mixing up the proved facts with baseless theories it leads to the rejection of both. If hypotheses must be constructed to satisfy our cravings for explanations let us at least take care that they are consistent with the body of scientific truth, and are used to explain undeniable facts, and not to justify those which are already doubtful. We cannot but regard the present hypothetical basis of the high dilutions as quite untenable, and therefore dangerous, as leading us to place a false confidence in the efficacy of these preparations. It is a significant fact that homœopathy gains its adherents by its facts, whilst the opposition to it is largely owing to its theories. We can hope to progress only so long as we follow the sound system of induction from indisputable facts that was employed by Hahnemann in his masterly introduction to the *Organon*.

DR. JAMES ROSS ON HOMŒOPATHY.

WE have for some time past followed with much interest Dr. James Ross's contributions to therapeutic theory. Our attention was first excited by a review in the *Practitioner* for June, 1869, of a brochure of his on the subject of counter-irritation. The doctrine he there advocates—viz., that blisters and the like act as stimulants to the diseased parts in the neighbourhood—we have already shown* to be perfectly homœopathic in all its details. In fact, it is simply the doctrine taught by Dr. Fletcher in his class up to 1836 and expounded in his works on physiology and pathology, and it leads directly to an *à priori* demonstration of the homœopathic principle. It was this also which led some of ourselves to examine into homœopathy. We next met with Dr. Ross in the number of the same journal for

* *Brit. Journ. of Hom.*, vol. xxviii, p. 326.

October, 1870, as the author of a paper "On the Action of Mercury," which he explains just as we should do. We were not surprised, then, to find him grappling closer with the whole theory of the healing art in papers "On the Principles of Therapeutics" (*Practitioner*, April and August, 1871), and "On the Therapeutics of the Present Day" (*ibid.*, January, 1872). And when, in the present year's series of the same journal, in the second of a course of essays "On the Geometrical System in Medicine," he announced his intention of examining somewhat minutely the system of Hahnemann, we looked out with no little interest for what the May number would bring us.

Our anticipations have not been disappointed. Dr. Ross has given us a critique of homœopathy which is scrupulously fair, and, in a far larger measure than is common, intelligent as to our actual position and arguments. We are very thankful that such an enemy is allowed to speak on the subject; it is next best to free utterance being given to the advocates of the cause.

Let us examine, in the same spirit and endeavour, the discussion he has carried on.

Dr. Ross classes the system of Hahnemann as "one of the best (from another point of view the worst) examples of the application of the geometrical method in medicine." By the "geometrical method" he means "the proceeding by definitions, axioms, and postulates;" and considers that "those who have employed the geometrical method in the concrete sciences commit the error of supposing that the phenomena of the science can be deduced from one law or force, and not from the laws of all the forces concerned in their production." Of this method he considers homœopathy one of the best examples, in the sense of thoroughness and consistency in carrying it out, one of the worst in that the error of the method is thereby the more apparent and pernicious.

Now, on this we have to remark that there are two radical differences between the homœopathic method and those others which Dr. Ross criticises.

1st. Their "definitions, axioms, and postulates" are

physiologico-pathological; and the therapeutic measures deduced from them involve additional assumptions and theories as to the operation of the agents used. Hahnemann's "one comprehensive generalization," on the other hand, deals with the action of medicines only. It affirms a relation between their poisonous and their curative effects on the animal organism; and it goes no further. There is a want of ambition about this, perhaps; but there is an avoidance of danger. The progress or the variations of thought have rendered more pretentious systems obsolete; they can never affect the statement "*similia similibus curantur*." It is a pure question of fact; and by experiment it must live or die. We may philosophise about it, but no one can philosophise against it.

2nd. We know of nothing in "*similia similibus curantur*" which is *exclusive*, so that its operation "affords no room for what so constantly occurs in mechanics and its applications, the case of conflicting forces; of causes which counteract or modify one another." This is cited from Mill by Dr. Ross as the great objection to the "geometrical method." Homœopathy does not say "similars alone are curative;" it simply affirms that they are so, whatever other things may be. It implies that such medicines as are given should be selected, whenever practicable, upon this principle. But it leaves open to one so practising the whole range of means—dietetic, regiminal, mechanical, and even chemical so far as chemistry finds place in vital processes. The use of these is no makeshift, no "practical expedient in order to bring an outlying region within the scope of the system." Dr. Ross allows this in his concluding sentences; but we desire to put it in the foreground, in contrast with the attempt made by other systems to embrace the whole work of the physician under one or two formulæ.

It thus appears that the objections which, from the very nature of the case, apply to ordinary applications of the "geometrical method" to medicine, do not hold good as against homœopathy. It has the unity and simplicity which are the attractions of such a method, without the

exclusiveness which renders it practically futile. Let us now consider the specific objections brought forward by Dr. Ross in his paper.

I. Dr. Ross admits that "*similia similibus curantur*" is a true generalization, arrived at by induction. He quotes Sprengel, who writes, "Hahnemann, by a fine induction, demonstrated that most of those potent medicines known under the name of specifics are useful just because they set up an artificial excitement which often produces phenomena very like those of the malady. In fact, this theory is daily confirmed by the observation of counter-irritations excited by art, by the aid of which we succeed in destroying the irritation of disease." This judgment, says Dr. Ross, is, in my opinion, perfectly just. Why, then, does he condemn us for practising in accordance therewith?

His objection is that the induction proves only that "*some diseases may be cured by an agent which produces symptoms in the healthy similar to those of the disease.*" "Before it can be made the basis of a system, the particular must be converted into a universal proposition. The proposition required is not that some, but that all diseases may be so treated." And again, "The evidence merely shows that *some diseases may be treated by this law*; but the proposition required is that *all diseases must be, ought to be, or are best treated in this manner.*"

Now, in so objecting, it seems to us that Dr. Ross has assumed concerning induction something which facts do not warrant. No one who knows anything of the history of science supposes that discovery is ordinarily made by the graduated generalization theoretically required by Bacon. The process is usually this:—A few well-observed facts suggest an hypothesis to account for their occurrence and sequence. This, once imagined, is tested by application to other facts of the same order. If it succeeds in accounting for all that are known, and for new ones as they come into view, it rises into the dignity of a theory or doctrine; and, for all practical purposes, may be regarded as proved. But there is obviously no logical proof of it; it is but a probability at the best, and any day a new fact may arise

for which it fails to account, and which, therefore, relegates it to a subordinate position.

It is no objection, therefore, to the homœopathic induction to say that it has too narrow a basis. A single fact may have suggested it; the question is, has its deductive verification been carried far enough to warrant the practical belief that its application is universal? We believe that it has—that the practice of the last sixty years, in Germany, France, England, America, and elsewhere, has been one long experimental testing of it, and has been a continued success. The old disorders have all come more or less completely within its range, and the new ones—cholera, diphtheria, &c.—have admitted of and yielded to its application. We do maintain, and we think we have ground for maintaining, that all diseases may be treated by its means. But it is *disease* which we define as its sphere, not injuries, poisonings, mechanical alterations, and such like. So far as drugs are capable of favourably modifying disease, so far homœopathy extends its range.

Again, the “ought to be, or are best treated,” which Dr. Ross claims from us, but denies as unwarrantable, is, we think, involved in the statement he cites approvingly from Sprengel. The principle enunciated by Hahnemann is that which accounts for the action of those “*médicaments énergiques connus sous le nom de spécifiques.*” It is so: homœopathy is specific medication, and “*similia similibus*” is just an organon for the discovery of specifics. Now, can it be denied that specific treatment, where attainable, “ought to be and is best” followed? Would it not be an immense gain for medicine if all diseases could be treated as ague is treated with *Quinine*? Towards this end, and, indeed, towards something still more perfect (for to give *Quinine* for every intermittent without discrimination is but rough practice), homœopathy is working.

II. The objections hitherto noticed lie against the scientific completeness of the homœopathic principle. But Dr. Ross farther argues, that it “presents great difficulty and uncertainty in its application.”

“What constitutes,” he writes, “*similarity* between two

groups of symptoms? If the similarity must be complete in all the details, it is scarcely possible to apply the principle at all, since it is very rare for a drug to produce in the healthy symptoms exactly similar to those of any natural disorder. If, on the other hand, it is only necessary that a few of the symptoms produced by the drug correspond to a few of the symptoms of the disease, then the most opposite drugs may be selected as equally applicable to the treatment of the case. *Belladonna*, when administered to the healthy, is said to produce sore throat and a red rash; and as these are prominent symptoms of a certain stage of scarlet fever, this drug is selected as the appropriate remedy in that stage. But even when we suppose that the sore throat and red rash caused by *Belladonna* and those of scarlet fever are really similar to one another, these are only prominent symptoms of the physiological action of the drug on the one hand, and of the disease on the other, and between the remaining symptoms of the one and those of the other there is very little resemblance. On the other hand, the most opposite drugs produce symptoms which correspond in one or two particulars to those of scarlet fever. What, then, becomes of the homœopathic law as a principle of drug selection?"

We have given this argument of Dr. Ross's in full (though he afterwards admits that it is fairly met by homœopaths, by the plea of the imperfection of our knowledge), because it is a favourite one of our opponents, and, though theoretically plausible, is utterly untenable practically. *Solvitur ambulando*. Given a fair knowledge of pathogenetics, and in four cases out of five, though there may be "difficulty," there is no "uncertainty" in the application of the homœopathic principle. We say "given a fair knowledge of pathogenetics;" and the case cited by Dr. Ross to point his objections shows how very imperfect such knowledge is in even an exceptionally well-informed man of the old school. He allows (more for the sake of argument than from any persuasion of their reality) the sore throat and red rash of *Belladonna*; but he ignores the delirium, and seems to know nothing of the fever which it excites. If *Belladonna* can cause (as it has often caused) this group of symptoms in the healthy, what more is necessary to constitute its homœopathicity to

scarlatina? What are the "remaining symptoms" of the disease which find no corresponding phenomena in the action of the drug?

In truth, Dr. Ross assumes that in comparing pathogenic effects and symptoms of disease we proceed *per enumerationem simplicem*, and make no attempt at discrimination. Scarlatina often sets in with vomiting and purging; *Veratrum album* causes vomiting and purging; therefore *Veratrum album* is homœopathic to scarlatina. So we might reason, were we to content ourselves with the correspondence of "a few of the symptoms of the disease." But no homœopathist does this. He endeavours to ascertain which are the essential and characteristic phenomena of each disease, and which of the symptoms produced by drugs have the same value: and these he applies one to another. Thus he obtains a true similarity. It may be, and often is, imperfect, owing to the incompleteness of our knowledge. But it is the experience of all of us, that the more perfect the similarity, the more decisive the success.

III. Dr. Ross's next objection is that "in order to apply the law of similars, it is only necessary to take cognizance of the group of symptoms which constitute a disease on the one hand, and the group produced by a drug in a healthy individual on the other." Hence, he thinks, "nearly the whole of rational pathology, and almost all generalization and abstraction in the study of disease are rejected as a necessary consequence of the fundamental principle of the system;" and the predominance of homœopathy must prove "the Grave of Science."

Now, even supposing the case stood as it is represented, there are two obvious answers to be made. First, it is no small advantage to be able to prescribe surely by means of observed and indubitable facts, without being dependent on the fluctuations of theory. Pathology is a very different thing now from what it was in Sydenham's day; but no one has left us better descriptions of disease. The pathology of a hundred years hence may be as far in advance of ours as ours is of his. But we want a therapeutics which shall not wait for this; which shall avail a Sydenham as well as a Bright,

and a Bright as well as the leading physicians of the next century ; which shall not vary with interpretations, but rest upon the facts ascertained by observation and experiment. Secondly, even if "rational pathology" were needless in the selection of drugs, it would surely be of sufficient practical value in determining the prognosis and the general management of the case to cause it to be studied, even if the love of knowledge as knowledge were not potent motive enough.

But we go farther. If rational pathology means real knowledge, and not mere theorising, we maintain that it finds full place in the carrying out of the law of similars. A valid generalization of a drug action can be fitted to a valid generalization of morbid phenomena, as well as the symptoms on which the two are respectively based. It is as logical, and far easier, to choose *Phosphorus* as the remedy for pneumonia because it inflames healthy lungs, as, because it causes fever, oppressed respiration, stitch in the side, rusty sputa, and crepitus, to oppose it to these phenomena when occurring in disease. So that we deside-rate interpretation with all eagerness, and readily avail ourselves of it. Only, as all good treatises on the practice of physic give large space to clinical description, so we place the register of symptoms in the forefront of our works on materia medica. Discussions, explanations, comparisons, may follow in either case, and are welcome : but observed facts are first in importance.

Besides, Dr. Ross's argument here involves the fallacy which we have hitherto found to impose upon superficial thinkers only, viz. that the symptoms of drugs are something abstract and fugitive, and do not rest on a pathological basis as much as the gravest lesions of disease ; that they are like the cherubs which have not the *de quoi* to sit upon ; while, in fact, the most trivial symptom has its proximate cause. It is the fitting of the drug proximate-cause to its pathological *simile*, i.e. the proximate cause of disease, which constitutes homœopathy. This cannot be done by a senseless symptom-covering, and so far from being "the grave of science" the latter as yet lags far behind what is needful to carry out homœopathy.

IV. Dr. Ross's last objection (which is, indeed, an offshoot of that we have just discussed) lies against Hahnemann's "mode of investigating the actions of medicines." He allows him the credit of "being the first to carry out the study of the action of drugs on healthy individuals, with a view of turning the knowledge thus acquired to practical account in the cure of disease." But he stigmatises as defects in his method—1st, the rejection of "all rational interpretation of the symptoms, and almost all generalization;" and, 2nd, the denial of any value to experiments on the lower animals. Of the first we have already spoken. The second, so far as it is well founded, was simply the result of excess of caution. Hahnemann was very anxious (as the preface to the 1st volume of his *Materia Medica Pura* shows) to admit none but genuine symptoms into his pathogenesies. It is well known that some animals react to poisons differently from man. This being so, there was uncertainty in using symptoms obtained from these subjects as data for the application of the law of similars in human therapeutics. Canine drug symptoms, he argued, can only safely be used in the treatment of canine diseases. However, Hahnemann himself was not utterly rigid on this score. Two of his *Opium* symptoms were observed on frogs, and two of his *Belladonna* symptoms on a puppy. And homœopathists now, though imbued with the spirit of his caution, are far from being limited by the letter of his restrictions. The arrangement of the *Bichromate of Potash* in the *Hahnemann Materia Medica* shows how fully we avail ourselves of experiment on animals; and also how far we are from rejecting "rational interpretation of symptoms and generalization" so long as these do not displace the symptoms themselves.

Upon what Dr. Ross has written about the single medicine, the local affinities of drugs, and the dose, we have no remarks to offer, as we have no difference to express. We do not deny that "a combination of means is often required to effect the ends of therapeutic art;" only we prefer, both for practical efficiency and for scientific precision, giving our agents in succession or occasionally in alternation

to uniting them together. And we cordially agree with his opinion, "that, if homœopathists and ourselves were to come to some practical agreement with regard to the rest of their system, the question of the doses would in a few years disappear from the region of controversy, at any rate from the region of rancorous controversy."

But we cannot refrain from asking—Why should not it, and all other questions raised by homœopathy, "disappear from the region of rancorous controversy" now? Controversy we desire; it is the collision which strikes out the sparks of truth; but that it should be rancorous we hold most lamentable and discreditable.

We have joined issue with Dr. Ross in his treatment of homœopathy as a "geometrical system," and, we think, have fairly met his arguments; but the truth is we are not greatly interested in them.

We are not "homœopathists" or systematists at all; we are simply rational physicians, and, above all, practical men.

If the homœopathic law is a true guide to finding the curative action of drugs, we wish it to be followed, as far as it is applicable, and not one jot farther, and we exclude no other method of cure; we are merely exclusive in the sense of preferring the homœopathic method when it is better than any other we know, and in such a case it is necessarily exclusive of any other incompatible with it for the time being. We likewise hold that all the resources of pathology, including semeiotics, are necessary for properly applying the homœopathic law. Such being our principles, nothing of the imperfection or exclusiveness of geometrical methods applies to us; and, in fact, we are not aware that we could be called "geometrical methodists," nor, in truth, do we care.

As above said, we are, above all, *practical*, and if the homœopathic is a true law for the discovery of specifics we consider it our bounden duty to follow it out by proving drugs on the healthy and testing the results on the sick, and then to avow openly and honourably the source of any specifics for disease thereby discovered. Dr. Ross admits with us the existence of the homœopathic law of specifics; but we cannot accept from him as a justification of his

neglect to carry it out in proving medicines the reason he gives at p. 270, viz.—“ When the comparative method of investigating the action of drugs is applied to the whole biological series, great generalizations will be obtained which will reduce the method of proving drugs upon healthy men to a very subordinate position.” Possibly ! But people did not fail to make the best of carrier-pigeons and semaphores before the electric telegraph was discovered, nor did our race defer peopling America till steamboats crossed the Atlantic comfortably in nine days ! For the above reason Dr. Ross will not prove medicines, and because there are “ difficulties ” in applying the results already found he won’t practise homœopathically. This is the fatal blot in Dr. Ross’s character ; he is not practical, though he may be clever and candid, and we fear he will do no good in his day and generation. What boots it to see the good of a theory if he stands idly by and will not move a finger to remove the imperfections and difficulties incident to it, as to all human things ? Doubtless, in bygone days such as he would have praised the theory of vaccination, and held aloof from its practice, and made one of that band of opponents upon whom rests the blood of a calculable number of thousands of their fellow-creatures in this kingdom alone.

Dr. Ross’s treatment of homœopathy oddly reminds us of the dressing of a cucumber. We and he are at one as to all the steps of that delicate process. But when it is finished the question is what is to be done with it ? “ Eat it,” say we. “ No,” says Dr. Ross, “ throw it out of the window.” “ Right !” cries Dr. Anstie, “ for if you had not said that, not a word of your appetising description of the process would have appeared in my magazine.” That is it : the lame and impotent conclusion is the *open sesame* for the admission of the whole article.

It is the pinch of incense which Dr. Anstie casts on the altar of the gods before whom he bows and trembles, viz. trades unionists, bigots, and booksellers. We knew very well beforehand that no article would appear in the *Practitioner* on homœopathy except with the foregone conclusion that it was either theoretically absurd or practically

useless ; but it is Dr. Anstie we blame, not Dr. Ross, who, we doubt not, is candid and sincere in his conclusion, and we hope that the favourable points he has brought forward may fall upon less speculative and unpractical ground, and bring forth fruit abundantly. Dr. Anstie allows crypto-homœopaths and renegades to fill half his columns with homœopathic treatment provided the theory is passed over in silence or repudiated in words ; and he allows Dr. Ross to praise the theory while he condemns the practice which follows from it as palpably as the shadow follows the sun. How long is this to last ? Surely the truth has nothing to fear from fair and open discussion !

Dr. Ross has shown it to be quite possible to criticise homœopathy from an unfavouring point of view in a fair and temperate spirit ; and we hope that our reply in its defence has partaken of the same character. We trust that, like halcyon birds, this interchange of friendly argument may be an omen of calmer days to come.

WALDENBURG'S EXPERIMENTS ON ANIMALS APPLIED TO HUMAN TUBERCULOSIS AND PULMONARY CONSUMPTION.

(Continued from p. 298.)

I HAVE NOW to put my views to the test : (1) of pathological anatomy ; and (2) of pathology.

I. Let us, in the first place, consider *acute tuberculosis*. All pathological anatomists are agreed that in by far the largest number of cases of this disease either cheesy masses or deposits of detritus are met with somewhere or other, most frequently in the lungs or in the lymph-glands. The primary affections, which form the most probable starting-point of the tuberculosis, are very often distinguished by the circumstance that the principal eruption of grey tubercles takes place around them, whilst at greater distances from them the tubercle becomes more and more scanty until at last none can be found. Buhl lays special stress on the appearance of the tubercles, as showing

that those nearest the primary centre are the oldest, and those further off the youngest; the former being yellow and opaque, the latter grey and transparent. These statements are supported by the best observers and first authorities in pathological anatomy. Thus, Rokitansky in 1846 laid it down as a fundamental maxim that "acute miliary tuberculosis is but rarely primary, but in most cases depends on an antecedent tuberculosis of the blood fibrin, involving the lungs and lymph-glands especially, and is concentrated, as a rule, in an organ affected with this condition, or in another closely related structure."* In the third edition of his work, published in 1855, he says, "Acute tuberculosis is not usually the primary formation of tubercle; tubercles almost always already exist in either the lungs or the lymph-glands." Rokitansky, it must be noted, calls caseous products "tubercle;" hence, the pre-existence of cheesy pneumonia and of scrofulous glands is comprised in the last quotation. Buhl, also, as was shown in the former paper, strongly insists on the same relation when he mentions his having met with primary cheesy masses or caverns, in twenty-one out of twenty-three cases of acute miliary tuberculosis. Lastly, Virchow says, "The question may be asked, Does a miliary eruption ever take place without pre-existent cheesy or, in Laennec's sense, softened primary deposits? I grant that this is extremely rare, for, if a thorough search be made, an old cheesy deposit is almost invariable found somewhere. In the great majority of cases we find cheesy bronchial or mesenteric glands especially, or some solitary deposits in the lungs, or isolated ulcers in the bowels, and we can surely have no difficulty in regarding these as the sources of infection. Still, there are a few very rare cases of miliary tuberculosis occurring as a primary affection, all such ulcers and primary deposits being absent."† The last exception, together with the fact of cheesy deposits often tarrying a long time in the body without injury, or even becoming absorbed, determined Virchow, it is true, not to side with Buhl's theory; but he,

* *Handbuch der pathologischen Anatomie*, Bd. i, p. 442.

† *Die krankhaften Geschwülste*, Bd. ii, p. 724.

nevertheless, holds fast to the doctrine that tubercle has an infective property, not only in its caseous and softened stage, but also whilst it is undergoing development. The more we perform post-mortem examinations at the present time with our attention directed to this question the stronger becomes the evidence that a primary infection deposit can be demonstrated, as a rule with few exceptions, in cases of acute miliary tuberculosis. I am reminded of a short report by Huber, of Professor v. Pfeufer's clinic at Munich, where five cases of general miliary tuberculosis were observed, in every one of which either cheesy deposits in the lungs, or cheesy bronchial or mesenteric glands, &c., existed.*

The circumscribed acute tuberculoes, especially acute tubercular meningitis, occupy the same position as general acute miliary tuberculosis. This form of meningitis is, according to the unanimous verdict of authors, very seldom a primary disease, since in almost every instance pre-existent cheesy deposits in the lungs, or in the lymph-glands, &c., can be discovered. Buhl amongst other cases reports nine in not one of which was a primary deposit absent. Rokitansky, too, says "it occurs especially in children and young persons, and also at all later periods of life. It is very rarely a primary tuberculosis, other tuberculoes lie at its root, such as chronic tuberculosis of the pia mater, of the lymph-glands, or of the lungs." Indeed, every practitioner knows from experience that dulness on percussing the lungs affords valuable data in determining the existence of tubercular meningitis in adults, and that it is chiefly scrofulous subjects who are affected in childhood. Moreover, an important confirmation of my views is furnished by the observation of Tröltsch and others that meningitis tuberculosa and even general miliary tuberculosis not unfrequently follow purulent otitis.†

In short, all the evidence thus far advanced furnishes important support for my theory from pathological anatomy. It has been shown that it is but an exceptional occurrence for a primary deposit not to be discovered at the autopsy

* *Allgem. Med. Centralztg.*, 89, 1867.

† *Lehrbuch der Ohrenheilkunde*, 4 Aufl., p. 365.

of a person dead from acute tuberculosis; and, therefore, the sole question is whether or not exceptions are of sufficient force to upset my views. I think not, and for the following reasons:—(1) It may very easily happen that an existent primary deposit is overlooked at the post-mortem examination. Assuredly this point will now have to be attended to with particular care at autopsies, but for all that small deposits will certainly escape observation. Heretofore the presence of such deposits must have been unheeded all the more readily from the fact of their not having as yet been invested with any degree of importance. Perhaps, too, the lymph-glands were not examined everywhere as minutely as must be done to prove the presence or the absence of caseation or disintegration; (2) in fact, it is not necessary for a primary deposit to be shown at the post-mortem; and yet it may have existed before infection and have become completely resorbed without leaving behind the least trace. Indeed, I frequently observed during my experiments that the primary deposit, *i. e.* the place where the foreign material was inoculated, could not be discovered, all indications of its former existence having disappeared. Why should the same thing not happen in man? (3) Even if a primary deposit is not brought to light after death, and if its former existence cannot be inferred from the past history, we must still always take into account the possibilities which were commented upon in a preceding section. There may really be a primary tuberculosis, and yet the causes that have operated in its production are similar to those of the secondary form, such as suppressed secretions, cessation of the catamenia, contagion, &c. Hence there is no difficulty in explaining the exceptions in general; whilst in concrete cases the greatest care must henceforth be taken to discover the source of the disease in every instance. The objection that cheesy deposits and their resorption are frequently observed without tuberculosis supervening has been already answered.

Let us now turn to chronic tuberculosis. In my previous remarks I pointed out the most important distinctions between the chronic and the acute forms; to wit, in the

former the tubercular eruption is neither sudden nor general, nor diffused over many organs; but, on the contrary, appears at first in a limited area, then spreads over a still larger district by subsequent operations, sometimes migrates to distant organs, and, consequently, requires on the whole a longer period of time to bring about a fatal termination. Its most frequent starting-point, as I have already said, is cheesy pneumonia, around whose products the first miliary tubercles appear; these tubercles may themselves become confluent and undergo softening, and thus form sources of infection for further tubercular eruptions. Laennec has accurately described these phenomena, and I shall make use of them in my own favour, although my theory clashes with his cardinal dogmas. An analysis of his remarks shows that wherever he observed miliary tubercles in the lungs he found softened "tubercle" as their starting-point. He also sometimes noticed isolated yellow "tubercle" without miliary formations at the circumference. His singularly exact observations have been subsequently verified by the most eminent pathological anatomists. The facts, therefore, are firmly established, and the sole question in dispute is the interpretation they should receive. It is certain that cheesy or softened deposits were found in the midst of miliary tubercles. Now, what guarantee and what convincing proof have we that the cheesy or cavernous "primitive" deposits of which he speaks were really developed from miliary tubercles? Those who dis sever "caseous" from "tuberculous" products will agree, certainly for the most part, with me in regarding these isolated cheesy and softened masses as dependent on pneumonical processes rather than on true tubercle. Virchow, who is the highest authority on this subject, and who has rendered great service to it, can be cited to prove that amongst the cheesy deposits of various organs it is precisely those of the lungs which are most frequently confounded with true tubercles; whereas they are simply the products of inflammation. Of course, in concrete cases, we are just as little able to demonstrate that existent softened cheesy deposits and caverns have

originated from pneumonia and not from tubercles, as to prove the converse in other cases. But this much must be conceded in the present state of our knowledge concerning both the pathogenesis and the anatomy of phthisis, namely, that probability teaches us to regard as pneumonical the primitive and mostly extensive deposit found in the apex of the lung, although its source can no longer be anatomically proved on account of softening having already begun. Indeed, the almost daily observation of caseous lung deposits not yet disintegrated convinces us that they are most frequently of an inflammatory nature, and that the larger deposits arising from the confluence of true miliary tubercles are relatively much rarer.

I take it for granted, therefore, that in the great majority of cases phthisis begins with a pneumonia which begets cheesy products. These caseous pneumonical deposits may last for a longer or shorter time, and even lead to cavities, without causing important symptoms. Such are the cases which occupy the first place in Laennec's order, and which show the existence of phthisis in the first stage when the patient is examined after death from some other disease. If the malady progresses, either caseous pneumonia is set up anew, or tuberculosis, the result of resorption, is super-added. The first miliary tubercles are concentrated at the periphery of the cheesy deposits or of the cavities, and gradually spread later in larger zones to more distant parts. Of course, when several primary deposits exist, several localisations of miliary tuberculosis are accumulated. The conglomerated miliary tubercles break down little by little, and then they form secondary infection deposits, from which again fresh miliary tubercles are developed through resorption of detritus, constituting the "successive secondary eruptions" of Laennec. The tuberculosis may either remain limited to the lungs or spring over to other organs again through resorption of detritus, or even destroy life by the process becoming generalised.

It may be assumed, further, that not only true tubercle but also inflammatory deposits, be they in the lungs or in other organs, may result from resorption. For example, affections

of the intestinal canal and of the larynx appearing in the course of phthisis, need not by any means be immediately tubercular in nature; and the secondary eruptions may also be simple inflammatory processes which cause ulcers in the mucous membrane of these organs, and which have miliary tuberculosis in their environs as a secondary result.

Besides cheesy masses and caverns in the lungs, we somewhat frequently meet with cheesy inflammatory products of other organs as primary seats of infection, from which tubercular eruptions radiate as from a centre. Cases of tuberculosis are well known to have arisen from the primary cheesy-thickened products of pleurisy, from the exudations of peritonitis, sometimes from pre-existent cheesy deposits in the genito-urinary organs, from accumulation of miliary tubercles around intestinal ulcers, &c. But the lymph-glands are to be noticed most of all in this relation, for we very often observe at the autopsy of persons dead from chronic tuberculosis, especially children, that the mesenteric and bronchial glands are the chief seats of caseous degeneration. C. E. Hoffmann has recently published a very remarkable series of clinical and post-mortem reports, which furnish striking evidence in support of the statements just made.*

Nevertheless, cases of chronic tuberculosis may fall under observation in which no primary deposit can be discovered at the autopsy. The same remark applies to them as to occasional instances of the acute form, namely, that they cannot, for reasons already assigned, be in the least used as positive evidence for the refutation of my theory.

There is still another argument, derived from the pathological anatomy of both acute and chronic tuberculosis, in favour of at least the probability of my views. I refer to the circumstance that the vessels are the favorite seat of miliary tuberculosis. As this point has been already discussed in sufficient detail in another part of my work, the mere reminder of the fact will suffice here.

II. Let us now, in the second place, submit my theory to the test of *pathology*.

* *Deutsches Archiv f. Klinische Medicin*, 3, i, 1867.

The proposition has been laid down that tuberculosis is a resorption disease which stands in the nosological system next to pyæmia, and then to the acute infection diseases. The clinical history of acute general miliary tuberculosis presents, as is very well known, a striking resemblance to that of an acute infection disease, especially of typhoid. The clinical features of these two diseases are often so closely analogous that the differential diagnosis is impossible. The first prominent symptoms leave no room whatever for doubt that no local lesion is present anywhere, that the whole organism is deranged, and that a general blood-poisoning exists. The eruption of miliary tubercles happens in nearly the same manner as the outbreak of the skin eruption in the acute exanthemata, excepting that the former process involves the most vital organs. The blood casts off its infection stuff through the eruption. This analogy to the acute exanthems, and especially to smallpox, has been insisted upon for several years by former authors, Engel at their head. Indeed, all clinicians who have until now observed acute miliary tuberculosis concur without exception in adding it to the list of infection or blood diseases. Here, therefore, just as was the case in pathological anatomy, we have already an essential confirmation of my experimental deductions, from a period when as yet no one had any idea of the artificial production of tuberculosis.

How, after all, has the differential diagnosis between acute miliary tuberculosis and other infection diseases been still rendered possible? The most important guide was the detection of a primary cheesy or cavernous deposit, either in the lungs, the lymph-glands, or in some other organ—another strong argument for my theory. If the disease makes its appearance with symptoms of typhoid, &c., whilst either the ætiological factors of fever or enteric phenomena are absent, then these primary deposits constitute the sole means of directing towards a rational diagnosis. In miliary tubercles of the lungs the diagnosis may certainly be carried out, but only in the advanced phase of the disease, and that solely by very minute physical examination; whilst in the early stage we are limited to probabilities. It is true that

recently an almost infallible means has been made known, chiefly by Cohnheim,* for diagnosing general miliary tuberculosis with certainty during life, namely, ophthalmoscopic examination of the choroid. But still tubercles do not fasten upon this tissue except during the course of the disease, and it has yet to be determined by further investigation on what day the complication appears, after the onset of the major attack. So, too, extended experience must hereafter teach us how far we should rely on the constancy of the choroid affection in general miliary tuberculosis.

Acute tuberculosis has the clinical features of an infection disease. But are they those of a specific infection disease? No doubt a specific character exists, in a certain sense, for the eruption appears, not by skin eruptions, mucous membrane affections, &c., but by a peculiar lymphoid formation, miliary tubercle. But that this is specific in the strict sense of the word, and that it contains a special virulent material, does not follow from a single symptom of the whole disease. The general phenomena of blood-poisoning are just as well explained by the theory of the resorption of foreign corpuscular and non-specific elements, as by the supposition of some hypothetical chemical poison. The inference that the lymphoid growths result from the deposition of these corpuscular elements is so natural as to make the existence of a virus wholly unnecessary; besides, has a single exact observation hitherto proved that miliary tubercle really contains either a fixed, or a volatile contagium, after the manner of smallpox, scarlet fever, typhoid, &c.? I have yet to learn that the contagiousity of general miliary tuberculosis, I do not say of phthisis, has been established beyond doubt. Nor can any one maintain its epidemic occurrence like acute specific infection diseases, whether limited to houses and streets, or diffused over whole cities. The fact that in many families it occurs in several members, who are sometimes carried off nearly at the same time, can hardly be referred to contagiousity, but rather to the existence of similar conditions, such as hereditary lung phthisis or hereditary scrofulosis, or there may be present acquired

* Virchow's *Archiv*, xxxix, p. 49, 1867.

scrofula, cheesy inflammatory products and the like, acting as exciting causes of acute miliary tuberculosis, and resulting from a bad mode of life, foul air, deficient food, &c., to which the whole family is mutually exposed. The circumstance, too; that cases of general miliary tuberculosis multiply at certain periods, and are more rarely observed at others, cannot certainly be explained by supposing that the disease appears as an epidemic. Every physician must have often observed in his practice how rare forms of disease which have nothing to do with infection or with the genius epidemicus, such as injuries, deformities, chronic disorders, &c., sometimes crowd upon him within the space of a few weeks, whilst at other times he may not see a single example of such cases for several years. It must be admitted that acute general miliary tuberculosis is not dependent on conditions of soil, meteorological influences, density of population, &c., that it exists just as much in the country as in towns, that it never disappears for terms of years only to reoccupy a wider territory, but rather that it is present in all places and at all times, although relatively unfrequent. Whether it occurs in districts where phthisis and scrofulosis are but very rarely seen, or which enjoy a certain immunity from these two affections, is a question that the experience hitherto acquired is not yet able to answer. In short, acute tuberculosis lacks all the traits of a specific, virulent or miasmatical infection disease, and only those phenomena remain which stamp it as a blood disease, in a wholly general sense. Its pathology, therefore, stands in complete harmony with my views in every respect.

The acute tuberculoses which are limited to individual organs exhibit typhoid characters, like the general form just discussed, but with this difference, that the local symptoms also are important, or even predominate, as for example in meningitis tuberculosa. The likeness between the latter disease and "typhus" at the onset and in the first stage is undeniable. There are cases in which the diagnosis is extremely difficult, and in which the pre-existence of pneumonic products in the lungs, of scrofula, of purulent otitis, &c., has the strongest bearing on the differential

diagnosis. As badges of distinction from "typhus" we have the symptoms arising from the brain, which show themselves, at least in their totality and significance, only, as a rule, in the course of the disease, namely, slow pulse, constipation, immobility, convulsions, coma, &c.

We come now to chronic tuberculosis. Let me here, first of all, bring into prominent notice the fact, known to all physicians, that very frequently a condition closely analogous to pyæmia sets in during the course of tubercular phthisis. There are intermittent or remittent fever, most irregular in type, and sometimes slight, at other times severe rigors, followed by dry heat with or without perspiration. This condition may be erroneously looked upon as the result of malaria, pernicious intermittent, or pyæmia, when the anamnesis and the pectoral symptoms are disregarded. Not unfrequently *quinine* proves beneficial, but usually it only temporarily modifies the paroxysms, or changes their type. The fever, from being intermittent, soon becomes remittent and hectic, and the patient succumbs to it; or there is a gradual improvement in the condition, and the fever at last wholly disappears *pari passu* with the diminution of the local symptoms. At a later period, however, it most probably breaks out anew as a symptom of more extensive softening of deposits and of tubercular eruptions caused by this process.

Chronic tuberculosis, as has been stated, most frequently supervenes upon chronic pneumonia, scrofulosis, and cheesy purulent exudations. Pulmonary consumption is not, as an earlier discussion showed, a simple (uncompounded) disease; there are, on the contrary, several forms of disease grouped together under the one expression of "phthisis."

The first form is the pure inflammatory, in which, from beginning to end, true tuberculosis is altogether absent, and only the local signs of pneumonia, cheesy consolidation, and final softening of the products, are observed. It is either acute or chronic in its origin and progress, and it ends in either death or recovery. The latter takes place by calcification, or by evacuation of the cheesy mass and cicatrization of the cavities. I consider "cheesy pneumonia," or

"pneumophthisis simplex," the most suitable designation for this form.

The second form begins, like the first, with an acute or a chronic pneumonia, which leaves behind more or less abundant cheesy products. Both during the florid stage and at the end of the inflammatory process when convalescence is already entered upon, miliary tubercles are developed from resorption of the cheesy material, at first in the environs of the deposit, and later in more distant districts and organs. The tubercles make their appearance, either by a single continuous act or by several subsequent operations separated from each other by intervals. This form may be named "phthisis tuberculosa," or, perhaps, still more fitly, "combined phthisis."

The third form begins at once as miliary tuberculosis of the lung, and is the effect of scrofulosis, thickened pleuritic exudations, or some other cause. The eruption of tubercles is either a very extensive one immediately, or it follows more gradually; then sooner or later miliary tuberculosis of other organs sets in. This form may, even from its outset, be simply called "tuberculosis pulmonum" in order to distinguish it from the others. It may be complicated in its course with inflammatory processes, and then become similar to the preceding forms.

The question may be asked,—Do the lines of demarcation just drawn correspond with observations at the bedside? Are the diseases heretofore lumped into a single category under the name of phthisis, or incorrectly of tuberculosis, capable of *clinical* segregation into distinct groups, so as to square with the above-mentioned arrangement? There are cases, as every clinician must admit, in which the course of the disease is so uniform, that they fall with precision into one or other of the three divisions. Several authorities have already for some time isolated pure caseous pneumonia especially, and have even shaped its therapeutics in accordance with the purport of this dismemberment. Yet Niemeyer only has essayed a rigorous classification into several different groups, and portrayed the clinical characters of each form. In my opinion, indeed, the time

since which this separation, based partly on pathologico-anatomical, and partly on experimental research, has engaged attention, is still much too short, and the subject far too complicated for an author to be now in a condition to give anything like a finished and final delineation of the symptomatology of pulmonary consumption and of tuberculosis in their modern sense. Nevertheless, it must be a matter of importance to gain a clear insight into those diseases whose symptoms and course accord with my data. I shall, therefore, endeavour to draw the outlines of a few morbid portraits, which are seen almost daily in practice, and which I have of late had no difficulty in arranging into one or other of these three classes.

The symptoms of the first class occur usually in those who are delicate and have the habitus phthisicus, but frequently also in quite strong and robust persons. The cause generally assigned is catching cold. The attack begins suddenly as an acute croupous, often as a catarrhal, pneumonia. It is ushered in either with chilliness, or with rigors, speedily followed by ardent heat. The fever is continuous and the temperature 39° — 40° C., or higher; in addition, increased pulse frequency, thirst, anorexia, headache, saturated urine, &c., are observed. For the most part the fever presents from the first a more adynamic type, that of so-called "bilious" pneumonia; the patient has not the red turgid countenance of common pneumonia; sometimes it is even somewhat pale; the subjective sensation of heat is not very striking; the pulse is not particularly hard, at times not even very quick. I have, however, seen patients in whom the fever had the highest degree of erethism, and showed no deviation from that of common croupous pneumonia of strong persons. Physical examination of the chest yields the usual signs of pneumonia which are concentrated chiefly in one of the upper lobes of the lung, but not rarely in the lower also. In some cases pleuritis coexists with all the subjective and objective signs of pleuro-pneumonia. The dyspnoea is usually not great at the beginning. The cough, at first but slight, increases from day to day. The early sputa are

glairy ; if croupous pneumonia is present they are reddish and later rusty or citron-coloured ; in other cases they appear yellowish or grey, and very viscid. We wait for a crisis or lysis on the fifth, seventh, or later days, but in vain. The eleventh, fourteenth, and even the twentieth day arrives, and yet the pyrexia has not given way. The disease, it is true, often runs this course to some extent on the days on which the crisis is wont most frequently to appear, and a more or less profuse sweat breaks out, sometimes after a *perturbatio critica*. The disease is now considered as surmounted, and the temperature to the touch is but slightly elevated ; yet the thermometer indicates the persistence of fever, although in a considerably diminished degree. The temperature, which is about 38° C. in the morning after perspiration, rises again in the evening to 39° C. or more. The critical perspirations may recur, but the crisis always remains an incomplete one. Then the pyrexia from being continuous becomes remittent, with a frequently changing type, so that the remission appears sometimes in the morning, and at other times in the evening. In other cases the perspirations are not at all critical ; the patients are inclined rather to transpiration even in the early days without a considerable abatement of the fever taking place. At a later period profuse sweats appear daily, especially at night, and the fever has a remittent character. As with the fever so with the local symptoms ; the physician hopes in vain from day to day to hear the dulness of the percussion sound diminish, and the bronchial breathing disappear ; in vain, too, he searches for fine or coarse moist râles as signs of lysis. Instead of these the bronchial respiration gets more sharply marked, and assumes an amphoric tone in some circumscribed parts ; râles of a metallic, crepitant, and consonant character, sometimes even large moist crepitation, become audible ; the percussion sound is quite dull, and perhaps associated with the *bruit de pot fêlé* ; then the existence of cavities is no longer doubtful. Meanwhile the sputa have ceased to be glairy, reddish, or citron-coloured ; they are grey or opaque yellow, compact, slightly viscid, and contain particles which

sink in water, and show the presence of elastic fibres under microscopic examination. The expectoration is tolerably copious. The respiration is frequent, and there is often more or less well-marked dyspnoea. The pulse is rather soft, and its frequency much increased. The sensorium is not at all affected; sometimes in this stage the appetite is rather keen. The emaciation is extreme. The patient dies usually in two to three months; sometimes even between the fourth and sixth week; frequently at a later period still. The fever has meanwhile become hectic, but it may also possess the character of well-marked erethism even up to the fatal termination. A case of the latter kind, which ended fatally within eight weeks, remains indelibly stamped on my memory on account of its peculiar features. It concerned a young woman who up to the last day had a turgescient countenance, the temperature raised above 40° C., the pulse tolerably strong and numbering 120—150 per minute, and considerable dyspnoea, just as in the first stage of genuine croupous pneumonia, although she was bathed all night in profuse perspiration.

The form just described is *acute simple phthisis*, or *acute cheesy pneumonia*. It generally ends in death (florid phthisis, galloping consumption); or the symptoms gradually abate, the fever moderates, and the acute merges into the chronic form. The latter may either destroy life in a longer or shorter time from hectic; or after a remission the process may be exacerbated, become complicated with other diseases, chiefly tuberculosis, occasion hæmoptysis, and sooner or later carry off the patient. On the other hand, all the symptoms may completely subside, and the disease be temporarily cured. As a striking example of acute phthisis which was cured, I might mention a case treated for eighteen months by myself in association with Professor Traube and Dr. H. Sachs. The disease began with the symptoms of acute bilious pleuro-pneumonia, and came to incomplete crises on the eleventh and the fourteenth day. After this time the fever continued of a remittent type, and the temperature rose to 41.5° C. Physical examination and the sputa furnished unmistakable proofs of extensive cavities in the left lower

lobe. The emaciation was excessive, and small hope remained of saving the patient. Yet, in the fifth week, notwithstanding the fever, the appetite became keen, and then so ravenous that it could not be satisfied; the strength increased, the expectoration diminished, the dulness on percussion decreased in extent, and the pyrexia abated. At the same time well-marked mental aberration set in, compelling the patient's transference to a retreat, from which he was discharged cured in about ten weeks. Excepting dulness and bronchial breathing at the place of the former cavity, no subjective and no objective symptoms any longer existed; there was neither cough, nor expectoration, nor dyspnoea. The patient, a banker *æt.* 35, now follows his business. I have had no opportunity of examining him lately.

A connecting link binds acute and chronic cheesy phthisis together. The latter, *phthisis chronica simplex*, may be developed from the acute form, or it may, in certain conditions, begin with obscure symptoms as a subacute disease. Not unfrequently it is the result of catarrh; whilst in many cases the attack begins with hæmoptysis which is then followed by pneumonia. The patients are generally delicate, and have a long, narrow, non-muscular thorax, and the other signs of the phthisical habit; but as with acute pneumonia, so with this disease, strongly built persons may in certain circumstances become affected. I shall now draw a picture of the disease as it is most frequently met with. A delicate person gets a cough, which he neglects from sheer carelessness; it remains dry for some time, and instead of diminishing becomes more and more teasing. In some cases there is pain in the chest. The patient shivers frequently and sweats at night. The percussion note is distinctly dull at the apex of the lung on one side or on both sides; the breathing is either vascular or indistinct, with râles and prolonged expiration; or there is already bronchial respiration. With the advance of the disease the cough gradually becomes looser, and the expectoration more or less abundant and globular. The dulness of the percussion sound is intensified, the bronchial breathing gets louder, and the râles

become consonant and metallic. The thorax at the affected part of the lung seems to be flatter and rises less with inspiration than the corresponding part of the sound side. The frequency of breathing is somewhat increased and dyspnoea follows exertion. The general condition may be tolerably satisfactory ; appetite and digestion normal, pyrexia very moderate or but slight. In other cases, however, the fever is higher and remittent, the perspiration profuse, the pulse very frequent, and the emaciation considerable. Usually the symptoms after a certain time abate in severity, the fever becomes slighter or wholly disappears, the cough and expectoration diminish, the strength increases, and relative soundness of health is regained. But sooner or later a fresh exacerbation takes place, new pneumonical deposits are developed, or hæmoptysis occurs, &c. In this chronic form of simple pulmonary consumption which may continue for several years, we observe a series of remissions and aggravations ; at one time, apparent health, at another slight complaints that yet allow the patient to follow his business, and sometimes acute intermissions. The fatal termination results either suddenly from hæmoptysis, or gradually from hectic fever. In some cases, again, the disease remains stationary for months and years ; in others, it is completely recovered from, and that not rarely. I could cite several such cases from my own practice, and no doubt every observant physician has met with instances in which a permanent or temporary cure has been effected. A slight dulness remains at the affected part of the lung, which, however, diminishes from year to year, and if neither cough, nor expectoration, nor oppression of breathing, nor any kind of subjective or objective morbid appearances are any longer present, then the strength and *embonpoint* visibly improve. The respiratory murmur, which was bronchial and mixed with râles at the beginning, becomes undefined at a later period, and at last gives place to soft vesicular breathing. I have been able to verify with certainty the progress of healing in many cases by repeated examination of the chest during several years.

A similar course is taken by those kinds of chronic

phthisis that begin with subacute processes. A sudden hæmoptysis is followed by troublesome dry cough, pyrexia, increased frequency of breathing, heavy sweats, perhaps also pectoral pain, circumscribed dulness on percussion, indistinct murmur or bronchial breathing, and moist râles later on; or the attack begins as bronchitis, and runs on to subacute pneumonia. In both cases the pyrexia may remain continuous, or it may assume the hectic character; hæmoptysis frequently recurs, and death ensues in a few months. Or, again, the pyrexia ceases, the strength rallies, the cough abates, and we have that form of healed or of healing cheesy pneumonia which, as is stated in the above description, after existing for weeks, months, and even years, at last either destroys life by new exacerbations and complications, or, much more rarely, ends in recovery.

In the second group, that is, phthisis combined with tuberculosis, the disease begins in the manner described above either as acute, or subacute, or chronic pneumonia. During a remission of the inflammatory symptoms pyrexia sets in without known cause; the cough, which was previously attended with an easy and often a copious expectoration, becomes complicated with an intercurrent dry cough, and the breathing is increased in frequency and even dyspnoæal. Both percussion and auscultation fail to show an advance of the pneumonic process. Sometimes, however, the percussion becomes somewhat clearer or even slightly tympanitic, in the vicinity of the previous dulness, and the respiratory murmur fainter, or of an indefinite character. These symptoms, however, only point to the probability that a complication of miliary tuberculosis exists; a certain criterion for its actual presence has yet to be found. Pathology will have to endeavour to discover criteria for this purpose, since they have a very important bearing on diagnosis and prognosis. Whether Niemeyer's assertion that miliary tuberculosis is manifested by continued pyrexia and pneumonical infiltration by remittent or intermittent fever will be confirmed hereafter, has still to be seen, especially as he himself admits that his researches are not yet completed. The diagnosis becomes much more

certain as soon as distant organs begin to be affected. If obstinate diarrhœa, or ulcerous laryngitis supervenes, the existence of secondary miliary tuberculosis is in the highest degree probable. Yet these two conditions may be present without tubercular complication, for the diarrhœa may depend upon catarrh of the intestinal mucous membrane, and if casual ulcers are present they need not necessarily be tubercular, but may be of a follicular nature. The laryngitis, too, may be simply inflammatory. I have often enough seen even obstinate laryngitides, appearing in the course of phthisis, cured by local treatment, so that their purely tubercular nature seemed doubtful. On the other hand, intestinal tuberculosis may exist without diarrhœa or constipation, and serious changes may take place in the larynx and trachea without attracting the special attention of the patient or of the physician to them. Very frequently the only symptoms of ulcerous laryngitis is a somewhat flat or weak voice, which is apt to be ascribed to the general debility until laryngoscopic examination brings to light the unexpected lesion. Hence, I may parenthetically remark that periodical examination of the larynx of every phthisical person is necessary in order to discover whether it is intact or not.

Notwithstanding all these considerations we are able, when laryngeal and intestinal symptoms make their appearance and assume anything like an obstinate character, to diagnose tuberculosis as very probable, and to estimate the prognosis accordingly. If the brain be also implicated there will be still less difficulty in arriving at a correct diagnosis and prognosis. The termination of tubercular phthisis is almost always in death. The patient is carried off sooner or later, with considerable wasting and hectic fever. Yet here also the symptoms may abate and even remain stationary, if the tubercles are localised around cheesy deposits and do not extend to more distant parts. Whether recovery be possible must be settled by further researches.

The third group consists of chronic miliary tuberculosis. A person hitherto apparently healthy, or perhaps only

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affected with scrofula, becomes languid without known cause, wastes, looks pale and suffering, has frequent shivering and transitory heats, dry cough, and not the least expectoration. Examination of the chest nowhere discloses considerable circumscribed dulness on percussion, and both bronchial breathing and copious râles are absent; yet the percussion note over the upper part of both lungs is, on the whole, somewhat less loud and perceptibly clearer than over the lower lobes, perhaps even tympanitic; the respiratory murmur is faintly vesicular or indistinct; the capacity of the lungs as measured by the spirometer is strikingly small; and the frequency of breathing increased. The pulse is frequent and rather soft; the temperature of the surface elevated. Hoarseness and even aphonia very soon supervene, the laryngeal mucous membrane ulcerates or the cartilage of the larynx swells, and deglutition becomes difficult. Sometimes there is obstinate constipation, but diarrhoea soon sets in and cannot be arrested by any means. The patient died, reduced to a skeleton by high hectic fever and colliquative perspirations. The lung symptoms, subjective as well as objective, are frequently inconsiderable even to the last. I have observed numerous cases in which the laryngeal and intestinal symptoms placed the pulmonary symptoms completely in the back ground. The dry tormenting cough was caused entirely by tickling in the larynx, the lungs being almost unaffected; the dulness on percussion remained trifling, and no râles could be heard; yet, on the other hand, there was feeble indefinite breathing over a very considerable portion of the lungs. *The disproportion between the grave general symptoms and the relatively insignificant signs furnished by the lungs constitute the most important guide in distinguishing miliary tuberculosis from cheesy pneumonia.* In many cases, however, the lung symptoms increase and softened masses are formed, or the tuberculosis is complicated with the processes of cheesy pneumonia. Then the dulness becomes more marked at several places, bronchial breathing and râles are superadded, and the condition comes into contact with that described in the last category, the only means of

distinction between the two being the mode in which the disease has been developed. Nor is scrofula the only precursor; for the disease runs a course similar to that just described when cheesy deposits are present in any organ, *e. g.* inspissated pleuritic, or peritonitic exudation, when any habitual secretion is arrested, when the catamenia are suddenly suppressed, &c. The termination of chronic miliary tuberculosis is almost invariably in death; yet the possibility of recovery cannot be denied when the process remains localised and does not extend to other organs.

The morbid portraits which I have just attempted to sketch are not produced from theoretical materials, but, as every physician must allow, are entirely drawn from life. I have observed a number of well-defined examples in my practice, and I could adduce many reported cases which correspond completely with the aforesaid types. My delineations, however, are by no means satisfactorily perfect, because there are many intermediate varieties that have been passed over. The fact that there are these varieties renders it a difficult and often an impossible matter to determine in which of the three categories any single case should be registered, especially if the development of the disease has not been carefully observed from the first. A rich field is here presented for further clinical research in order to gather additional experience and to gain more reliable guides for the differential diagnosis. Moreover, the thankful duty remains of comparing clinical observations with post-mortem appearances, and thus of settling whether or not different morbid portraits correspond with different necroscopic results. Many years will probably elapse before this work is completed.

(To be continued.)

AN EXAMINATION OF HAHNEMANN'S PATHO- GENESIS OF *BELLADONNA*.

By Dr. RICHARD HUGHES.

(*Continued from p. 210.*)

15. The authors previously cited as from the "Act. Nat. Cur." (Glimm and Gmelin) are to be found in the "Nova Acta" of the Nuremberg Academy. But the remaining three (Rau, Carl, and Hasenest), though similarly referred to, do not appear in the volumes specified; and I should have given them up had it not occurred to me to try the prior "Acta" of the same Academy. There I have found them: but I must complain of the needless trouble given to a would-be verifier by the classing together of two independent series of transactions under one short heading.

Rau's paper is entitled "De effectu pernicioso a baccis Solani furiosi improvide comestis." From it seven symptoms are taken (S. 48, 449, 500, 805, 825, 1067, and 1239), after the following manner:—

"A certain labourer from the Duchy of Wurtemberg, of somewhat over fifty years of age, on a journey through the territory of Ulm, coming upon some *Solanum furiosum* in a lane, tasted its ripe berries; and, deceived by their pleasant flavour, devoured a large quantity, as much indeed as a hatful. Passing afterwards through the village of Ulm, and already half delirious, carrying handfuls of these deadly berries, he showed them to the inhabitants, and told how to the delight of his palate he had eaten of them. They, astonished, warned him of the mortal peril he was in; but he little cared, and laughing to himself proceeded on his way. Two hours after, however, he was found lying asleep on the road not far from the village; and, being aroused and brought back to the village, *he lost all use of his senses* (48). On being called to him, I found him in a *violent heat* (1239), the pulse quick and unequal, *stertor in the*

bronchial tubes (805), the *respiration difficult* (825), *convulsive movements of the limbs* (1067), *stammering of the tongue* (449), and *inflammation of the fauces* (500)." The narrative then proceeds to recount the antidotal treatment adopted, mentioning that for some weeks he was deficient in sound mind.

The source is here unexceptionable; and all the symptoms are correctly given in the *Materia Medica*, save the last. Here Hahnemann renders the simple "inflammatio faucium" of Rau (which he had transferred as it stood to the *Fragmenta de viribus*) by "Der Hals ist inwendig geschwollen," which seems quite unwarranted. S. 500 should therefore be altered to "Inflammation of the fauces."

16. The three symptoms taken from *Carl* (S. 1105, 1243, 1363) are contained in a paper by him in the 4th vol. of the "Acta," entitled "De noxio radice Solani furiosi usu in arthritide," which runs thus:

"A country woman, 54 years of age, of melancholico-sanguine temperament, had been tormented for a long time by arthritic sufferings, and now lay as it were contracted. This patient was ordered by a quack the decoction of the root of the *Solanum furiosum* with yeast. No sooner had she taken a few doses of this than forthwith she was excited to strange gesticulations, and now seemed to desire to flee away, now with her hands executed strange and unwonted movements, and constantly burst into *loud laughter* (1363). These symptoms continued for hours, and were followed by *internal burnings* (1243), with *great prostration of strength* (1105), and severe exacerbation of her malady, which nothing would relieve."

All is here as it should be.

17. Nine symptoms (S. 48, 266, 267, 392, 455, 1120, 1245, 1346, 1366) are taken from a paper by *Hasenest* in the 3rd vol. of these "Acta," entitled "De Baccarum Solani furiosi, seu Belladonnæ, effectu, vehementi quidem, ast fere ridiculo."

"On the 16th of August, 1707, while I lived at Wilhermsdorf as physician to the Illustrious Count de Hohenlohe-Schillingsfurst, there was brought to me at

6 p.m. the wife of a tradesman of Windsheim, some twenty years of age, suffering from a mental attack, and at a first glance evidently *labouring under some soporific influence* (1120). The bystanders, fearing apoplexy, pressed for speedy help by venesection and suitable medicines. However, until I should be better informed of the circumstances of the illness, I prescribed *Liq. C. C. succin. cum aquis cephalicis*; and deferred venesection (the pulse being weak and slow), especially as the symptoms more and more suggested to my mind narcotic poisoning. It turned out that an Aulic councillor of the place, strolling towards evening in his garden outside the village, found this woman standing in a brook, her clothes wet half way up, and feeling with her hands here and there on the margin, as if searching for something. The councillor withdrew her from the water, and brought her with him into the village. On the way *she uttered no word* in reply to his questionings, *groping rather like one dumb and blind* (266). Soon she began to feel at the councillor's face, and then at his feet, and even when brought into the house continued such *ridiculous gestures*,—*now she groped at one going about her; now she seated herself; now she stood at a table as a laundress does, and so held her hands as if she received from a tub something to be washed; now she seemed to be collecting and counting money with her hands on the table; now she went through the motions of eating, now of drinking* (1366). When some medicine was brought to her she held her *jaws so firmly closed* (892), that with difficulty by inserting the handle of a wooden spoon they could be opened. She seemed entirely *deprived of all her outward senses* (48)."

Emetics were now administered. "At nine o'clock she began to sleep, and towards morning to recover her senses and speech, so that on the following day she knew me at my visit, and replied to my questions, often, however, mixing up foreign matter, and *muttering like one who is asleep* (1346)." She then acknowledged to having eaten *Belladonna berries*. "On the 18th she came herself to me to certify me of her convalescence. *Her vision was still somewhat obscured, so that she could not read anything in print*

(267), and she complained of *great heat about the region of the stomach* (1245)." Next day she was well.

The symptoms extracted from this narrative could hardly have been given better in brief than they have been. The only emendation I would make is in S. 267. "Amaurosis" (schwarze staar) conveys rather more than the "aciem oculorum obtusam" of the original: "vision obscured" would better represent it.

18. Sympt. 380 ("Krampf zieht den Mund schief:—risus sardonicus") is cited as from "*Weinmann* in Gmelin's *Pflanzengifte*, p. 296." Sympt. 448 ("tremor of the tongue") is from "*Weinmann*, loc. cit." And Sympt. 702 ("stool as white as chalk") is from "*Weinmann*, loc. cit., p. 138."

Referring to Gmelin's work, I find at p. 296 the statement that Belladonna causes tremor of the tongue vouched for by one Weinmann. There is nothing about spasm of the mouth here; but farther on in the same article, at p. 300 of the volume, it is said that "Krämpfe und Zuckungen in dem Gesichte" have been excited by the poison. No comparison to "risus sardonicus" is suggested. But p. 188, to which S. 702 is referred, treats not of Belladonna but of Euphorbia; and no such symptom is mentioned in the article on Belladonna as observed by Weinmann or any one else. There is probably some mistake, therefore, in the reference, and the symptom must stand as unverified.

19. *Manetti*, in his "*Viridarium Florentinum*" (Florence, 1751) is cited as authority for Sympt. 524 and 627. The former ("inability to swallow") we have already found vouched for by de Launay d'Hermont. The circumstances under which the latter ("Magenkrampf") occurred may be seen from Manetti's statement, which runs thus:—

"The juice of above twenty berries of this *Solanum* being introduced by force into the stomach of a puppy (for it refused to swallow breadcrumbs saturated with this juice, although mixed with cheese and hog's lard) excited only a profound *convulsion of the stomach* (627), like hiccough, lasting for half an hour."

20. *Cullen*, cited from Hahnemann's own translation of his *Materia Medica*, is credited with two symptoms:

477. Considerable dryness of the throat.

487. Hæmorrhage from the mouth.

The passage in the original from which these are taken is the following: "I have only further to add, that the infusion of the *Belladonna* is ready to bring on a *dryness* and considerable stricture of the *pharynx* (477) and adjoining parts of the œsophagus. In one instance of a person using it at a distance and without any communication with me, when taking the infusion, with the effect of very nearly healing up a cancer of the lips, he had the dryness and stricture come on to a great degree, and was suddenly killed by a very copious *throwing up of blood*, seemingly, as I was informed, proceeding from the *fauces* (487)."

21. The name of *Schreck*, in "Commerc. lit. Nor." 1743, is affixed to the two symptoms:

304. Spasms of the eyes.

1409. Rage.

They are taken from a case of poisoning which is thus narrated.

"A countryman went one August evening with his little son of three years of age to the mountain, at about five o'clock, to attend to his cattle. The boy strayed from his side, and swallowed some berries of *Belladonna*; when they returned home at eight o'clock, he soon complained of pain in the lower belly, and after some time *raged* (1409) in a wonderful manner so that he could scarcely be restrained by two strong men; he bit at those standing by, and at himself, shouted furiously, and in this wretched state continued till the morning twilight, when his strength gave way: he then *distorted his eyes* (304) continually till eight a.m., when he peacefully gave up the ghost."*

22, 23. Symptoms 258 and 260, bearing the name of *Ray* (Hist. plant.) and *Daries* (Diss. de Bell.) attached to

* The post-mortem here was interesting. "On opening the abdomen the intestines, small and large, were found greatly inflamed and distended, especially the jejunum and colon. The mesentery also, and, above all, the liver were in a state of inflammation."

them, I have thought it needless to verify, as they merely express the full dilatation of the pupil which results from the external application of the drug. They are the only contributions of their respective authors.

24. Fourteen symptoms are taken from a pamphlet by *Tib. Lambergen*, entitled "*Lectio inauguralis sistens Ephemeridem persanati Carcinomatis.*"

It is a long and detailed narrative of the treatment of some mammary indurations remaining from old inflammations, which took on what seemed to be malignant action, lancinating pain affecting them, and the axillary glands hardening. The patient was a widow, æt. 84, of sanguine-nervous temperament, prone to inflammatory action. After much useless treatment, on Jan. 14th, 1745, she began the regular use of an infusion of *Belladonna*. This she took till June 12th, during which time she had consumed six drachms of the dried leaves, and was then quite well.

The symptoms extracted by Hahnemann from this narrative relate to the affections occurring in the course of the treatment, and seemingly connected with the drug rather than with the disease. I am sorry to have to pronounce them carelessly collected, as if the work had been delegated to an incompetent assistant rather than performed by the master's own hand. They are as follows :

- 13. Vertiginous staggering.
- 64. Violent headache.
- 207. Swelling of the face, and especially of the lips.
- 278. Longsightedness, as in old persons (presbyopia) ; she was only able to read large print.
- 367. Abscess of the lip, which bursts open.
- 485. Dryness in the mouth, the fauces, and the nose.
- 551. Entire loss of appetite.
- 793. Increased menstrual flow.
- 868. Painful blisters on the sternum, containing water.
- 960 Blister on the finger, with painful inflammation.
- 1009. Excessive pain of the legs, which compels her to stretch out the feet.
- 1044. Blisters, which easily burst open, in the palm of the hand and in the tibia.

1283. Cutaneous eruption consisting of blisters, emitting a quantity of water, and obliging her to moan and howl, owing to the intensity of the pain.

1316. Anxiety.

The "vertiginous staggering" of S. 13 is correct. S. 64, 207, 367, and 551 are misleading when placed separately. They belong to one little illness, beginning on March 22nd. On that day it is noted that "the face, and especially the upper lip, was distended, swollen, and painful, but without any redness." Next day the patient "complained of severe headache, loathed all food, and was somewhat feverish." On the 26th her physician was informed that "an abscess had broken on the inside of her upper lip, discharging much pus, since which she had felt much better." Now this abscess may have been caused by the *Belladonna* (the coincident cutaneous bullæ make it most probable): but the swelling, the headache, and the loss of appetite were secondary consequences of this, and not pathogenetic effects of the drug. Symptom 367 should therefore stand: "Abscess of the upper lip, causing painful swelling, with fever, headache, and loss of appetite, ending in free discharge of pus;" while S. 67, 207, and 551 should be omitted. Only slight headache and anorexia are elsewhere noted.

S. 278 needs correction. There is nothing about long-sightedness in the original, which simply says, "Such notable blindness (*cæcitas*) was observed that she could not read ordinary print." S. 485 is credited to Buchave as well as Lambergen; so that the dryness of fauces and nose may be the former's; it does not appear in the latter's narrative. S. 793 is correct enough; but it is hardly a pathogenetic effect. The patient's menses had diminished much consentaneously with the scirrhus mischief in the breast; they increased much in quantity during the treatment. S. 1316 should have "during the menses" added to it, as it was only noted in connection with their flow.

S. 960, 1044, and 1283 correctly, though perhaps too briefly, describe the singular cutaneous symptoms occurring in this patient while under the influence of the drug

"Palm of the hand," however, is a mistake; it should be "plantar surface of the foot." The "blisters" seem to have been what we call bullæ. Some of them emitted the "water" (lymph limpida), specified in S. 1283; others contained a fluid "more thick, white, like cream, very much as if the *rete Malpighianum* or interior lamella of the epidermis had melted into a pulp, which exuded in great quantity through the unbroken cuticle, transparent and fluctuating."

S. 1009 is very unhappily rendered. The left foot had ached considerably for two or three days, and then bullæ had appeared on it. "The pain of the foot on the evening of the sixth day was intense, so that this woman, so accustomed to bearing pain, could not restrain herself from lamentations and tears. Such was the pain of the foot that she kept it motionless in a horizontal position on a cushion, the least motion of the leg, or the slightest declination of the limb, causing intolerable distress." No hint is given in the symptom, as extracted, that this pain was the same as that of S. 1283, and connected with the bullæ; and the seat of it is said to be the "Unterschenkel," causing the "Fuss" to be extended. I should recommend this symptom to be omitted, and its substance added to S. 1044, thus—"The foot was so painful that she had to keep the limb horizontally extended and immoveable."

Lastly, S. 868 has no warrant from the original. The only phenomena of the sternum were "*plurimi furunculi dolentes*," appearing towards the end of the treatment. They came at the same time on the affected breast, and were not impossibly the local effect of the continuous dressings employed. If the symptom, as corrected, be retained, it must be as a doubtful one.

25. The following symptoms are taken from *Mardorf*, in a "*Dissertatio de maniacis Giessensibus*"—the maniacs in question being some people poisoned by *Belladonna*.

- 13. Vertiginous staggering.
- 1174. Drowsiness full of uneasiness.
- 1178. Yawning, like that of intoxicated persons.

1269. Sudden phlogoses.

1321. Sighing, alternating with jumping and dancing.

1421. Rage; she pulled at the hair of the bystanders.

Now if reference be made to *Valentini's* narrative (No. 10 of this series) all the symptoms here recorded will be found. It is, in fact, the same history. Valentini is credited with two of its symptoms, in a very truncated form ("Schlummer" from S. 1174, and "Wuth" from S. 1421); while all are given to Mardorf, as here. Valentini's name may very well be omitted from the pathogenesis as supererogatory.

I have now a series of papers from Hufeland's *Journal* to examine.

26. The first is by one *G—ch*, contained in vol. xvii, part 1. It is the narrative of a case in which a *Belladonna* enema was given (with success) for strangulated hernia, by mistake for one of tobacco. Hahnemann refers three symptoms to it:

41. He imagines he is riding upon an ox.

1183. Evening fever.

1339. Talks about wolves; with full pulse.

The first and third of these I find in the following sentence:—"The pulse became fuller, and soon the patient began to talk at random; it seemed to him as if wolves were in the room; then he imagined that he was riding upon an ox or some such thing." But there is nothing about "Abendfieber" in the narrative. The phrase, indeed, implies recurrence of fever at evening for two or more days; but the whole history recorded by *G—ch* embraces a few hours only. S. 1183 must therefore be omitted.

27. The second consists of observations by one *Schäffer*, of the effects of *Belladonna* in whooping-cough (vol. vi). From this Hahnemann has only taken Symptom

194. Scarlet redness of the face and chest during sleep. It is quite correct.

28. *Wiedemann* follows (vol. xxii, part 1) with some contributions of the same kind. Of the six symptoms taken from his paper (S. 39, 61, 193, 196, 1265, 1280)

one is contained in these words—"The heat noticed in the latter case" (a child of six) "and the blue-red appearance of the face which, with some patients, extends also all over the body, arose with several children from the use of *Belladonna*." This Hahnemann has epitomised as "Heat of the whole body with violet redness of the whole skin" (S. 1265). Another (S. 193) comes from his saying of a little girl under the influence of the drug, "Every evening she felt very hot, and grew blue-red." The remaining symptoms are taken from the following:

"A boy, 4 years old, had (like other children*) a feverish cold, unconnected with the whooping-cough. Wishing to try whether the *Belladonna* might act as a prophylactic I gave him half a spoonful of the *Belladonna* mixture, which was about equal to one grain. Soon after appeared *dark-red spots in his face, resembling the rash of scarlet fever; his pulse was full* (196). After two hours I repeated the same dose. The rash increased, and soon spread over the whole skin. The pulse became weaker and quicker, the breathing heavier. More violent and longer lasting fits of coughing came on, with vomiting. Afterwards the little one was delirious, and fancied he saw before him objects which were not there; his memory was stimulated, and he remembered things long past by; his pupils were dilated, and he often scratched his nose." This continued, though less violently, until next day.

Hahnemann has made three symptoms of this description.

39. He imagines he sees things which are not present.

61. He remembers things which had taken place a long time ago.

1280. Dark-red scarlet spots on the whole body, with a small, quick pulse, dyspnoea, violent cough, delirium, excited memory, rubbing of nose, and dilated pupils.

I think that, since this boy already had fever and cough, all mention of his pulse should be omitted, and that for "violent cough" should be substituted "an existing cough much increased in violence."

* The weather was cold and damp at the time.

29. In vol. vii of this Journal, part 4, *Ollenroth* communicates a case of mammary cancer treated by the internal use of *Belladonna* as the sole medicament. From the following passage in his narrative Hahnemann has taken four symptoms :

"After each dose the nervous system appeared greatly shaken; then followed a *very great stupefaction* (47) and *dimness of sight* (270), one or two hours afterwards copious perspiration, and then from three to six liquid stools; after which came *dryness of the throat and burning of the tongue* (493), followed by a *considerable amount of salivation* (462)."

These symptoms are therefore verified.

30. In vol. xvii, part 2, *Remer* contributes a "Cure of Melancholia by *Belladonna*." The patient was at the climacteric age. She took, night and morning, from one to six grains of powdered *Belladonna* root. Of the two symptoms cited, S. 511 is correct, but in S. 496 the mention of the "mouth" is incorrect. It was the fauces that food and drink burnt as if they had been brandy.

31. In vol. xxi, part 1, is "An account of a Pemphigus happily cured by *Belladonna*" from the pen of one *Henniny*. The patient was a woman aged between 30 and 40. She took from half a grain to two grains for a dose, consuming altogether 278 grains in the two months of treatment. The following portions of the narrative contain the six symptoms Hahnemann has extracted :

"After the first powder" (of one grain) "the patient became *utterly muddled in her senses* (*bewusstlosigkeit*) (50), *giddy* (1), *saw all things doubled* (290) and *inverted* (293)."

"After a time the patient experienced no other inconvenience save that every time she took a powder she suffered from *burning in the throat* (494) and also in the *stomach* (633)."

All these symptoms stand good except S. 50. Hahnemann has rendered this "*völlige Sinnlosigkeit, sie ist ihrer unbewusst,*" which conveys the idea of unconsciousness. But as the patient was at the same time giddy and complained of seeing things double and inverted, this could not

be. The simple "bewustlozigkeit" of the original had better be substituted.

32. Eight symptoms have now to be examined, which are referred to *Vicat*, in his work entitled *Plantes vénéneuses de Suisse*. Strange to say, this is not in the library of the British Museum; and I am indebted to my friend Dr. Guerin-Meneville, of Paris, for the reference. The portions of *Vicat's* account of the action of *Belladonna* from which *Hahnemann* has cited are the following:—

"The leaves and the berries dry the mouth and tongue; they cause an excessive thirst, make *deglutition difficult and painful* (504), *infect the saliva with an extraordinary taste* (531) and excite nausea. The head and the abdomen are in pain; the urine is suppressed, or it flows more freely and sometimes without the patient's being aware of it. There supervene different kinds of acute fever, loss of voice, *hoarseness* (803), *noises in the ear* (341), *insensibility* (53), *embarrassed respiration* (838), *burning heats within and without* (1242), with a violently agitated pulse."

"Taken in a larger dose than that previously specified, i.e., from four berries to ten, there is excited a *delirium either continuous or recurring at intervals: most frequently mirthful at first, but generally changing to fury* (1405)."

On *Hahnemann's* rendering of these symptoms I have only one remark to make. S. 531 ascribes a *spoiled* (*verdorben*) taste to the saliva; but the original says only "un gout *extraordinaire*." The rest is correct, though in *Hempel's* translation it would not appear to be so.

33. Three symptoms are ascribed to "*Buch'oz* bei *Vicat*." They are taken from this statement of *Vicat's*. "*M. Buch'oz* cites several tragical accidents of this kind," i.e. deaths from *Belladonna* poisoning; "and among others that of a young boy where the *intoxication* (23) and *delirium* (1334) led him to throw himself down from a second story (1439)."

I have to say here, 1st. That S. 1439 would be more explanatory if it were "In his delirium he throws himself down;" and, 2nd, that *Buch'oz's* name should not be among those who vouch for S. 23, as that is not "*Trunkenheit*" simply, but "*Benebelung wie in Trunkenheit*."

34. No less than seventeen symptoms are referred to one Boucher, in the "*Journal de Médecine*, xi, Août." I am again indebted to Dr. Guerin-Meneville for this source of citation, and regret that he should have had additional and needless trouble by the reference being wrongly given. Boucher's paper is in the 24th volume of this Journal (*Journal de Médecine et de Chirurgie*, Vandermund, Avril, 1766). It is entitled "An Observation of Five Children poisoned by the Fruits of *Belladonna*." The narrative is too long for transcription, and relates mainly to the treatment employed. But the following is an account of the symptoms cited by Hahnemann.

S. 169 ("la vue égarée") belongs to a boy of four, as also does S. 1332. They stand good. S. 256 appeared on a girl of five, together with S. 302, 922, 923. The first and last require no change; but the two intermediate ones are hardly correct. "In a circle" (S. 302) scarcely conveys the idea contained in the words, "De droite et de gauche vers les angles des orbites;" and the "twisting *inwards* (*intorsio*)" of S. 922 is quite unwarranted by the original, which is "les vers et les mains étaient dans des *contorsions* continuelles." S. 300, 654, and 1331 occurred in a boy of six. They are perfectly correct; but the "glänzende (gläserne) Augen" must not be understood physically; the words are "les yeux fort *animés*." S. 762 was observed in all these three children. S. 1330 occurred only in a girl, æt. 22 (the movements are compared by the reporter to those of chorea); and S. 1173 only in a boy of three. His "Schlummer" is hardly strong enough; his state is described as "une sorte de coma." Lastly, S. 305 and 1328 appeared in all the cases.

There remain, of the seventeen symptoms ascribed to this source, S. 170 ("distorted features"), 1348 ("senseless prattle"), and 1386 ("despondency, dejection"). Of these I can find no trace in the narrative. S. 1348 is otherwise vouched for; but S. 170 and 1386 must be marked doubtful.

(To be concluded in our next.)

ON THE PHYSIOLOGICAL ACTION OF CERTAIN ALKALOIDS DERIVED FROM OPIUM.

By J. GALLEY BLACKLEY, M.B. Lond.

(Read before the British Homœopathic Society.)

IN March, 1869, Messrs. Matthiessen and Wright* during a course of experiments upon the opium alkaloids found that when morphine was treated under pressure with strong hydrochloric acid, a body was produced differing in many striking particulars from hydrochlorate of morphine. On applying the ordinary qualitative tests for morphine the reactions, although similar, were in no case identical with those of morphine. Strong nitric acid gave a blood-red colour in place of the orange-yellow colour produced with morphine, and bichromate of potassium produced a dense yellow precipitate, no such precipitate being produced in solutions of morphine. The precipitates produced with other reagents were found unlike those from morphine to decompose rapidly generally turning black. When purified the body formed a white crystalline powder, soluble in thirty parts of cold water and freely in spirit.

On submitting this substance to analysis it was found to have the composition $C_{17}H_{17}NO_2HCl$, being therefore the hydrochlorate of a base differing only from morphine in the absence of an atom of water. This substance was called by its discoverers apomorphine, an arbitrary term meant to show the source from whence it was obtained.

On administering a small quantity of the new salt to a cat it was found to have physiological properties totally different from those of morphine, as it produced no narcotic effects whatever, but in their place copious vomiting.

Through the kindness of my friend Dr. Wright I obtained a small quantity of the salt, and commenced a series of experiments upon it, the first experiment being tried upon myself.

* *Proceedings of the Royal Society*, No. 112, 1869.

Exp. 1. On May 25th, 1869, at 9 p.m., my general health being good and the pulse and temperature normal, in the presence of my friend Dr. Wright I injected ten minims of a ten per cent. solution of apomorphine under the skin of the left arm, the pulse and temperature at the moment of injection being 72 and 98° respectively. During the first two minutes no effects were produced. After about three minutes the pulse began to rise slightly, and the respirations became slightly accelerated. At the end of four minutes I felt a sudden qualmishness, which was almost immediately followed by nausea and profuse vomiting. This continued for several minutes, and was followed, as soon as the contents of the stomach had been evacuated, by severe retching. On taking a draught of water with a little brandy in it this was immediately rejected, and on drinking cold water this too returned at once. No bile, however, came up in the vomited matters. At the end of seven or eight minutes from the commencement of the experiment I began to feel very faint and was compelled to lie down, and almost immediately on doing so I fainted entirely, and remained in a state of syncope for about five minutes. On awaking from this I felt giddy and chilly, and was obliged to take a little brandy and water. This was retained, and as I began to feel slightly drowsy I remained lying down for the space of about an hour, during which time I perspired profusely. On rising I still felt slight giddiness, but no inclination to vomit. I went to bed and slept soundly all night, awaking about 8 a.m. in my usual health, slightly pale, but very hungry.

The pulse and temperature observations taken by Dr. Wright during the course of the experiment were as follows :—

May 25th, 9 p.m.,	pulse 72,	temp. 98°.
" " 9.5	" 80,	" 99.2°.
" " 9.12	" 85,	" 97.8°.
" 26th, 8.20 a.m.,	pulse 70,	temp. 98.2°.

The second experiment made was upon a patient under my care with an ulcer of the leg, a stout, strong carman, aged twenty-eight, and I determined in this case to com-

mence with a less quantity than the one tenth grain. The notes of the experiment ran as follows :—

June 5th.—Wm. J—, aged 28, carman. Pulse 76; temp. 98·3°; general health good; pupils normal.

8.4 p.m.—Injected one twentieth grain of hydrochlorate of apomorphine under the skin of arm.

8.8.—Feels giddy; complains of pressure at epigastrium; pulse 88, weak, but regular; pupils moderately dilated.

8.9.—Began to vomit slightly.

8.10.—Vomiting profusely. This continued for three minutes.

8.13.—Ceased vomiting. Took a drink of water, which came up immediately. Milk was also rejected in like manner. Pulse 80, weak; temperature 98·6°.

8.20.—Still feels very giddy and looks pale; pupils dilated.

After lying down for half an hour he got up and walked home, and when I next saw him he told me that he felt no unpleasant after effects, and ate a good supper on reaching home.

From a variety of causes my experiments were here interrupted, and it is only within the last three months that I have been able to resume them. In the meantime several observers, both here and on the continent, have been carefully studying the action of apomorphine, and papers upon it have from time to time appeared in the various medical journals.

Dr. Gee, of St. Bartholomew's Hospital, performed a number of experiments upon cats, dogs, and rabbits, the results of which he communicated to the Clinical Society.* Since then papers have appeared by MM. Siebert,† Riegel and Böhm,‡ Blaser,§ Quehl,|| Loeb,¶ Moerz,** and Rabuteau,†† giving the results of their observations, physiological and clinical, upon the action of apomorphine.

* "On the Action of a New Organic Base," by Samuel Gee, M.D. *Transactions of Clinical Society*, vol. ii. † *Archiv der Heilkunde*, xii, 522—548.

‡ *Deutsch. Arch. für klin. Med.*, ix, 211. § *Arch. der Heilkunde*, xiii, 272.

|| *Centralblatt*, Oct. 12, 1872. ¶ *Berliner klin. Wochenschr.*, Jan. 20, 1873.

** *Prager Vierteljahrschrift für prakt. Heilkunde*, xxix, 76.

†† *L'Union Médicale*, Feb. 22, 1873.

Their experiments have been performed upon cats, dogs, rabbits, guinea-pigs, and the human subject.

In the experiments performed upon cats and dogs it was found that a larger dose was required than in the human subject, but the symptoms produced, with a few exceptions were such as I have above described. This I have recently verified in several observations made upon cats. The quantity required to produce vomiting varying from $\frac{1}{2}$ to $\frac{1}{4}$ gr., vomiting being produced in five to ten minutes, the animal recovering directly. In dogs a somewhat smaller quantity suffices. In rabbits and all rodent animals even large quantities failed to produce the least emetic effect.

Dr. Quehl found that by cutting the vagus nerve on both sides, or by chloroforming the animal, vomiting was prevented.

In several of Dr. Gee's experiments on cats, however, he found that the group of symptoms produced was far from being as simple as those given above, and in two cases which I have recently seen the symptoms were so different that I shall venture to read you the notes of one of the experiments.

February 20th.—Took a large powerful tom-cat, and injected $\frac{1}{2}$ gr. dissolved in ten drops of water under the skin of the abdomen.

10.20 p.m.—Within a few seconds after the injection begins to be excited and jump about the room; pupils became very much dilated; runs wildly round the room looking up at the walls.

10.25.—Respiration and pulse much quickened; very excited and savage; very sensitive to slight noise; runs round the room, and tries to scale the walls, falling backwards on his back at each attempt. On examining the eyes with the ophthalmoscope the retinal vessels appear much congested.

10.40.—Injected another $\frac{1}{2}$ grain; urination; walks to and fro like a tiger in a cage, constantly looking up at the wall; pupils dilated to their fullest extent; breathing 92 per minute, laboured; pulse too rapid to be counted.

11.0.—Injected $\frac{2}{3}$ gr.; slightly salivated; tongue pro-

truding ; is very savage if touched ; runs about from side to side, the hind legs being slightly dragged ; slight twitchings of head, especially on hearing any noise ; runs backwards.

The next morning all the symptoms had disappeared with the exception of a slight dragging of the hinder extremities, which continued for a couple of days. Thinking that the specimen used, which had been kept in solution some weeks, might have undergone some change, I procured a fresh supply of pure apomorphine, and on trying this upon two cats was fortunate enough to observe in one of them the same train of symptoms, though in a somewhat less marked degree. No vomiting followed in either case. Gee found that by commencing with a large dose these symptoms could invariably be produced. In one of his cases when the animal had in all $7\frac{1}{2}$ grains injected, the animal had epileptiform convulsions, and was found dead the next morning.

The post-mortem appearances hitherto observed have been so slight as to afford little or no clue to the *modus operandi* of the poison. In one of Quehl's cases a little hyperæmia was found in the pons Varolii and adjoining parts of the crura cerebri, the remaining organs being perfectly healthy.

I have ventured to classify the symptoms so far observed by myself and others as follows :

Brain and Cord.—Slight deafness, giddiness, singing in ears, great excitement, epileptiform convulsions brought on by touching. Tetanic condition, running round and round room, scaling walls, turning summersaults. Partial paralysis of the hinder extremities, clawing, natatory movements. Diminution of reflex irritability, continuous workings of stomach, depression. Uncomfortable sensation in the head.

Eye.—Pupils dilated. No action when applied locally in powder.

Ears.—Dimness of hearing.

Circulation.—Pulse accelerated, or accelerated and then

retarded. Syncope, lessening of blood pressure, fall of bodily temperature.

Respiration.—Accelerated, laboured.

Digestion.—Qualmishness, nausea, vomiting, retching, convulsive movements of stomach. Præcordial pain, salivation. Diarrhœa (in cats).

Urinary.—Urination.

Of the clinical uses of apomorphine it is not my intention to speak this evening, as I have as yet only tried its effects in two or three cases. I see, however, that Dr. Dyce Brown has promised a paper upon its clinical uses for the *Review*, so shall look forward to its appearance with interest. I may mention that it has already proved a very serviceable emetic in cases of poisoning, to which, from its portability and readiness of administration, it is peculiarly applicable.

Dr. Loeb records a case where he injected $\frac{1}{2}$ grain in a man who had swallowed $2\frac{1}{2}$ oz. of bitter almond oil. In the course of a few minutes nearly the whole of it returned, and the patient speedily recovered. Gee used it with perfect success to produce vomiting in a man who had taken a large quantity of raw spirits.

Its advantages over the ordinary emetics are, first—the rapidity of its administration; secondly, that it can be given subcutaneously when the patient cannot swallow, or when the stomach-pump tube cannot be introduced; third, the absence of unpleasant after effects, or of any irritation in the skin when given subcutaneously.

Apocodeine.—When codeine is submitted to the same treatment as morphine a homologous substance to apomorphine is produced, differing from codeine by the absence of one atom of water.* This body has been examined by Dr. Wickham Legg, of St. Bartholomew's Hospital,† and

* The relation of apomorphine and apocodeine to the alkaloids from which they are derived may be expressed as follows:

Morphine . . .	$C_{17}H_{19}NO_3 - H_2O =$
Apomorphine . . .	$C_{17}H_{17}NO_2$
Codeine . . .	$C_{18}H_{21}NO_3 - H_2O =$
Apocodeine . . .	$C_{18}H_{19}NO_2$

† *Transactions of the Clinical Society*, vol. II.

he finds that the symptoms produced resemble very closely those of apomorphine, though somewhat less marked. I have not yet had an opportunity of examining this body, so cannot speak from experience.

Diapomorphine.—When codeine is heated in a sealed tube to 140° with excess of HCl, methyl chloride is formed and a body is produced, which on analysis gives a formula differing from that of morphine by only half an element of water. This Dr. Wright has termed *diapomorphine* and at his request I have tried its effects upon cats. The substance is a brown uncrystalline scaly powder which is freely soluble in water and alcohol. The symptoms obtained were as follows:

December 17th.—9.48 p.m. I injected half a grain under the skin of the abdomen of a cat.

9.52.—Pupils dilated; conjunctiva drawn from the inner canthus over one third of the eyeball; looks round wonderingly.

9.57.—Passed water freely.

10.0.—Mews continuously; slight salivation.

10.15.—Injected another half grain.

10.20.—Licks lips vigorously; salivation continues.

10.30.—Pupils very strangely dilated. Retinal vessels as seen with the ophthalmoscope are very much enlarged.

10.45.—Injected three quarters of a grain.

10.48.—Salivation very profuse, running out of animal's mouth in a continuous stream, and making a pool on the spot. Makes convulsive movements as if about to vomit. No vomiting. No narcosis.

11.—Salivation still profuse and viscid.

11.20.—Slight soft evacuation. The next morning the animal appeared in its usual health. A second experiment gave the same results. This substance has not yet been tried clinically, but it would fully repay proving.

The production of the above intermediate compound between morphine and apomorphine added to several other somewhat anomalous facts observed during the course of his experiments has led Dr. Wright to the conclusion that the present formula of morphine should be doubled—

Apomorphine being morphine — $2 \text{ H}_2\text{O}$, and
 Diapomorphine being morphine — $4 \text{ H}_2\text{O}$.

For a variety of reasons, however, on further investigation Dr. Wright was led to suspect the existence of several isomeric bodies identical in percentage composition with morphine. These he has succeeded in isolating; one which he calls trimorphine, having three times the atomic weight of morphine, and a second four times called tetramorphine. The dimorphine he has not yet succeeded in isolating; but he looks upon this as the source of the apomorphine which in more strict chemical terminology may be called *tetrapodimorphine* = $\text{M}_4 - 4 \text{ H}_2\text{O}$.

Trimorphine.—This body has been recently examined by Dr. Stocker.* Doses of 0.025 to 0.1 grain in cats produced great excitement accompanied with salivation (slight with small doses, but marked with larger ones). Hypnotism, more or less marked, followed the excitement. In two experiments, where $1\frac{1}{4}$ grains were given, the cat gradually sank and died in a few hours, death being preceded by tetanic convulsions; in another case, with the same dose, the cat recovered.

Tetramorphine.—Hydrochlorate $\frac{1}{8}$ to $1\frac{1}{4}$ grains produced profuse salivation and vomiting in every case in course of a few minutes. Dilatation of the pupils and cerebral congestion were noticed in some cases. This alkaloid also gives derivatives in the same way as morphine. By abstracting $2 \text{ H}_2\text{O}$ a body (diapotetramorphine) is produced which also is a very powerful emetic, both in cats and dogs (Stocker).

I have examined the bodies produced by the abstraction of four atoms of water and $8 \text{ H}_2\text{O}$. The first, *tetrapotetramorphine*, produced effects very like the diapo-dimorphine salivation, but no emetic.

Octapotetramorphine produced following effects:

December 17th, 8.50.—Injected half a grain.

8.52.—Pupils dilated; conjunctiva drawn over eyes: slight salivation and gulping.

8.55.—Slight action of bowels; tremors on any sudden noise being made.

* *Proceedings of the Royal Society*, cxxxi, 1872, p. 210.

9.5.—Pupils dilated, conjunctiva injected, narcosis very marked. Lies on its side apparently asleep; roused by any loud noise; respirations very slow.

9.25.—Respiration still very slow.

9.30.—On spitting in the animal's face epileptiform convulsions were caused.

9.40.—Begins to be more lively and walk about; drags hind legs slightly.

9.45.—Runs about and gets into a corner. The next morning the animal appeared perfectly well.

This is as far as my experiments have proceeded at present. I have not yet ventured upon any hypothesis as to the connection between the chemical constitution and physiological action of these bodies. Comparing the hypothetical dimorphine and its derivatives with tetramorphine and the series of bodies derived from it, we see that the successive abstraction of the elements of water causes production of bodies whose physiological action alters apparently in opposite directions, the emetic action of the dimorphine derivatives increasing whilst that of tetramorphine series decreases as the elements of water are successively extracted.*

Our knowledge of these bodies is, as you see still, very fragmentary; indeed, I should not have ventured to bring

Name of base.	Relation to morphine.	Physiological action.	Observer.
Dimorphine	$= \bar{M}_2$?	?
Diapodimorphine	$= \bar{M}_2 - 2H_2O$	Profuse salivation, but destitute of emetic properties	Blackley.
Tetrapodimorphine (apomorpha)	$= \bar{M}_2 - 4H_2O$	Most powerful emetic in cats and man	Stocker and Gee.
Tetramorphine	$= \bar{M}_4$	Very powerful emetic	Stocker.
Diapotetramorphine	$= \bar{M}_4 - 2H_2O$	do.	do.
Tetrapotetramorphine	$= \bar{M}_4 - 4H_2O$	Profuse salivation; no emetic properties	Blackley.
Octapotetramorphine	$= \bar{M}_4 - 8H_2O$	No emetic or salivant action; slight narcotism	do.

them under the notice of this Society at all had I not promised a paper of some kind this session. I trust, however, that I have said sufficient to show that we have the promise of a series of bodies likely to be more or less useful in medicine and worthy of more minute study. It is my intention to proceed to more systematic provings of them, and to communicate to you any results I may obtain at an early date. In the meantime I shall be glad to have the names of volunteers willing to undertake provings. I shall be happy to supply them with material.

Before I conclude I must acknowledge my obligations to Dr. Wright for a liberal supply of the substances to be examined, and to my friend Dr. Hill for his kind assistance in many of the experiments. The apomorphine is now to be obtained in quantity from Messrs. Macfarlane and Co., of Edinburgh, the well-known morphia makers, and the triturations from 1st to 8 may be obtained from Messrs. Gould and Son, Moorgate Street. The tincture does not keep well, as it rapidly absorbs oxygen from the air and loses its activity.

Discussion on Dr. J. Galley Blackley's paper.

Mr. POPE hoped that they might regard Dr. Blackley's paper as an indication that the proving of powerful drugs, the experimental investigation of their properties, would once more excite an interest among homœopathic practitioners, and that Dr. Blackley would be able to induce others to join him in the very useful work he had so well begun. The experiments which had been detailed were very interesting. The action of this derivative of *Opium* upon the cerebro-spinal system was well marked. One experiment upon a cat detailed by Dr. Blackley was almost exactly like a very fatal form of distemper occasionally met with among dogs. Mr. Pope had only seen one case recover, and in that the medicinal agent was *Acetate of Lead*; but he thought that the *Apomorphia* was even a more exact similitum. He thought that a more prolonged course of experiments, with varying doses, would be productive of still further information, by giving us, not only the absolute symptoms, but those which are contingent. He thanked Dr. Blackley for an exceedingly interesting series of experiments.

Dr. COOPER felt that the thanks of all present were due to Dr.

Blackley for the care and trouble he had taken in preparing his very interesting paper; the facts brought to light in regard to the *Salts of Morphia* were most important, but for himself he should have preferred that the same pains were taken in investigating the action of the crude *Opium*. *Opium* is a drug that Hahnemann seems to have been more in error about than any other of which he has left us provings; he was mistaken in supposing that it never removed pain, and also, most probably, in saying that *Camphor* destroyed the effects of *Opium*. We have never satisfactorily determined whether *Camphor* really does counteract the action of *Opium*; facts are at present against any such supposition, and a tithe of the trouble Dr. Blackley has taken with its alkaloids might for ever settle this very important particular. Dr. Walter Smith, of Dublin, recommends the use of the active principles of herbs in preference to using the original plants, but this we can easily see could not be done with *Opium* any more than it could with *Belladonna*, whose alkaloid—atropin—can dilate the pupil when in contact with the conjunctiva, but has no power to do so when painted over the eyelids, while the *Belladonna* juice can dilate the pupil when administered in either way. Dr. Cooper has seen *Apomorphia* cause immediate cessation of vomiting in a distressing case where a tumour pressed upon the brain.

Dr. DRURY felt Dr. Blackley had shown much zeal in his researches, but he hoped for the sake of science he would not let his zeal outrun his discretion. He was reminded of Ibrahim Pasha's reply to the four French doctors, who, on giving in their report on the plague, said that one of their number had worn the shirt of a plague patient. Ibrahim, while expressing his interest in their proceedings, said he thought the doctor alluded to was the greatest fool of the four. He did not mention this to throw cold water on Dr. Blackley's efforts, but rather to urge him to be cautious in what he did.

Dr. BLACKLEY, in reply, begged to thank the meeting for the kind manner in which his paper had been received. He quite agreed with Dr. Cooper that there was still a rich harvest to be reaped from a fuller investigation of *Opium*, and suggested that Dr. Cooper should take up the subject himself, and let the Society have the benefit of his investigations. The case mentioned by Dr. Cooper was interesting, as it tended to confirm the theory that the action of *Apomorphine* is cerebral, and would, indeed, follow from Quehl's experiment of cutting the vagus. The names at present in use, though in strict accordance with modern chemical nomenclature, were doubtless somewhat complicated, but there was every reason to hope that as the substances came more and more into general use newer and simpler names would be given to them. In reply to a question as to the effects of *Apomorphine* when given by the mouth, Dr. Blackley stated that the effects were the same; the quantity required

being, however, much larger. Gee had found that a dose of one grain and a half was required to produce emesis in an adult.

ON THE FEBRILE STATE AND ITS HOMŒOPATHIC TREATMENT.

By Dr. BAYES.

(Read before the British Homœopathic Society.)

IN taking *the febrile state* as my theme this evening I do so because the inflammatory or febrile state is more or less the cause of by far the greater danger with which we have to contend in a very large number of the diseases we meet with.

Not only is this *state* the most frequent cause of the danger to life which environs all the exanthemata and all the inflammations of great organs and glands, but recent pathological researches show us that it is the cause of the greater proportion of the cases of phthisis which we meet with, and also of a very large proportion of those diseases of the womb and its appendages which sap the health of the present and future mothers of our civilised races, injuring the physique of the race which is to come.

Hence it is impossible to overrate the importance of the subject before us, and every practical physician has ever acknowledged that a true appreciation of the physiology, pathology, and therapeutics of fever is the basis of clinical medicine.

Let us then examine the phenomena of the febrile state (including inflammation, which is in itself a local fever).

After a chill or rigor more or less severe, increased heat of skin, quickened pulse, languor and lassitude, more or less prostration, and lastly, a critical discharge through some function takes place and then recovery.

To understand the pathological changes here indicated we must first consider very shortly the physiology of health.

Healthy functional activity depends on equable circulation.

Equable circulation is sustained by the mutual action of three sets of nerve-fibres, each of which takes its part in adjusting the balance, the motor, the sensory, and the sympathetic.

The special function of the sympathetic nerve-fibres appears to be to induce contraction of the blood-vessels and capillaries over which it is distributed, thus controlling the supply of blood to the ultimate tissues.

If the sympathetic nerves supplying any given part are divided or paralysed, we have at once increased vascularity and all the phenomena of inflammation induced, and if this arrest of sympathetic nerve function be general we have then all the phenomena of fever induced. This increased vascularity, with the attendant inflammatory or febrile state, has been clearly proved by recent physiological experiments to arise from the action of the motor and sensory fibres, forcing the blood into and over-distending the capillaries whose elasticity is uncontrolled when the opposing action of the sympathetic nerve-fibres is withdrawn or suspended.

In his essay on "*Rational Therapeutics*"* Dr. Edward Meryon states a number of most interesting facts bearing on these phenomena; he says that in every instance in which the sympathetic fibres have been divided, "an increased vascularity, an elevated temperature, and an increased secretion, have resulted.

"Another curious and instructive phenomenon occurs when the blood is thus transmitted in a preternatural quantity through the capillaries. The venous blood immediately becomes brighter in colour. M. Claude Bernard observed this fact in the coronary veins of the left side of the lip of a horse after he had divided the left cervical sympathetic.

"Now, the application of a weak electric current to the peripheric end of the divided sympathetic reverses all this. The calibre of the distended capillaries is quickly reduced; the temperature is lowered, and may be depressed below

* *Rational Therapeutics*. London: J. & A. Churchill.

the existing degree in other parts and secretion is diminished. If the power of the current be increased, the circulation may be entirely arrested, so that if examined under a microscope the capillary will be seen to be completely empty."

The researches of Lionel Beale carry us a stage further in our knowledge of the pathological changes which are found in the blood during the febrile state. He says that during the febrile state the blood is found to contain a far larger amount of bioplasm or germinal matter than it contains during the normal condition of health. In his interesting work on *Disease Germs, their Nature and Origin*, p. 215, he thus speaks of fevers and inflammations: "In the simple feverish state, and in the febrile conditions induced by the introduction of contagious bioplasm from without, we find the essential phenomena identical. These are to be noticed: altered chemical changes, impeded capillary circulation, and elevation of temperature, which is maintained as long as the fever lasts. These phenomena cease when free action of the skin, kidneys, and bowels occurs. By this free action is effected the removal of a large quantity of imperfectly oxidized compounds which had been accumulating during the continuance of the febrile condition. The escape of these substances is soon followed by the complete disappearance of febrile symptoms and return to the healthy state. The most virulent and fatal fevers excited by the introduction of poisonous disease-germs into the organism differ from the simple feverish condition only in degree, and in the immediate exciting cause of the early changes."

"Fever and inflammation are always characterised by an elevation of temperature varying from one or two to twelve or even fifteen degrees above the normal standard. If this is not, as I believe it to be, a consequence of the increase of bioplasm or living matter in the organism, the two phenomena are invariably associated. Principally and primarily there is increase of the bioplasm or germinal matter of the blood and of that in the capillary vessels, but afterwards that of the tissues undergoes the same change.

This increase of germinal matter is itself due to the presence in the blood of pabulum, and its accumulation in undue proportion. The constituents of this pabulum ought to have been *eliminated* by various glands as fast as they were formed, *or other compounds should have been produced instead*, which being more highly oxidized would have been readily got rid of in the form of uric acid, carbonic acid, and other substances easily excreted."

The author proceeds to say that in common cold or any slight feverish attack there is evidence of this increase of germinal matter in the blood, and "impairment of free circulation through the capillaries" with increased temperature.

"The rise in temperature, be it restricted to a part of the body, as in *inflammation*, or distributed over the entire organism, as in fever, is *invariably associated with the increase of the bioplasm*," p. 218.

Dr. Lionel Beale hence attributes the increase of temperature to the increase of bioplasm, and combats the idea that the evolution of heat in fever is due to oxidation, saying, "It has been affirmed over and over again that the elevation of temperature is invariably due to increased oxidation; but the state of things above referred to can hardly be favorable to this process. The oxidation theory is quite negated by the fact that the temperature sometimes rises most rapidly for some hours *after* death has occurred, and when it need hardly be said the organs concerned in effecting oxidation have completely ceased to act," p. 219.

If, bearing in mind the sequence of the phenomena of fever, we briefly review the above results of the researches of M. Claude Bernard, Dr. Meryon, and Lionel Beale, we arrive at these results:

1st. That the chills or rigors which precede the febrile state are produced by some over-stimulation of the peripheral branches of the sympathetic nervous system, or by some prostration or arrest of the function of the branches of the motor or sensory nervous system, by which the capillaries are inordinately contracted and emptied.

2ndly. That the febrile state (or hot stage) which follows the chills, results from prostration or arrest of the function of the branches of the sympathetic nerves, or by some hyper-excitation of the motor and sensory nerves, by which the balance of circulation is disturbed in the opposite direction to that above named, and the capillaries become distended.

3rdly. That the distended capillaries in the febrile state not only contain a larger proportion of blood than they do in health, but that blood-corpuscles are found in those vessels which in health contain none, and that the blood contains a far larger proportion of bioplasm or germinal matter than is found in the blood in health.

Before proceeding to the consideration of the third and last stage of the febrile state, *i. e.*, that of its termination by critical discharges, it may be as well to discuss some points of practical importance contained in the above three propositions.

With respect to the first series of ascertained facts there are some practical deductions which should strike the observer. If by the over-stimulation or irritation of a chill or sudden shock to the nerves controlling the peripheral circulation the arteries and the capillaries become emptied of blood, there must necessarily be a sudden arrest to that nourishment of tissue upon the regular performance of which health depends, and there must also be an arrest of that elimination and excretion to which allopathic attention seems so exclusively drawn when contemplating these facts. Hence we may assume that cell-life is checked and weakened by the sudden withdrawal of its accustomed pabulum (the bioplasm), which is conveyed to it in health by every pulsation of the heart.

Then comes the second act in the vital drama, the reaction of the motor nerves and the paralysis, more or less complete, of the sympathetic fibres: not only the usual supply of bioplasm is flooded on the ultimate cells, but a quantity of this pabulum is forced upon them which would be quite beyond their healthy powers of absorption, and which, in their weakened state, they wholly reject; the capillaries,

therefore, remain gorged, or their coats give way, and extravasations take place by which bioplasm or germinal matter becomes deposited in large quantity in certain organs or tissues.

We have, therefore, before us two conditions of grave significance: we have an arrest of the constructive processes of the body, *i. e.*, of the growth of healthy tissue: we have an arrest of the destructive processes of the body, *i. e.*, of the activity of the eliminative functions, and from these two conditions we have an accumulation of bioplasm (germinal matter) within the system, with a loss of balance between the three sets of nerves which control circulation, nutrition, and elimination; the sympathetic nervous system has lost its controlling power; the sensory and the motor nerves are in a state of hyper-excitation, and the life-blood runs riot, destroying that which in health it is its function to nourish, to sustain, and to strengthen.

Rational therapeutics, following these two indications, should lead us, therefore, to seek for such medicines as should primarily restrain the engorgement of the capillaries and secondarily promote the constructive processes once more by specifically stimulating the paralysed peripheral nerves, thus, so to speak, reducing the pressure of the blood in the capillaries, and opening the portals of the tissues to receive the masses of bioplasm lying in morbid accumulation at their doors, and in doing this the whole dead-lock in the circulation through arterioles and capillaries would yield, and secretion or excretion would once more be freely set up and convey away effete matter.

This is the aim of homœopathic medication in such a case, and it is strictly conservative; hence, after recovery under such treatment, we avoid the long convalescence which follows the destructive treatment of artificial elimination.

We see in the febrile state that, after some over-stimulation or severe irritation of the sympathetic nerve-fibres, causing contraction and emptying of the arterioles and capillaries, that an equivalent amount of paralysis of the same set of nerve-fibres ensues, leaving the arterioles and capillaries in a relaxed condition, during which they become gorged with

blood and overwhelmed with masses of unappropriated bioplasm.

The homœopathic physician thus has to seek for a remedy which has the power to induce similar states in the same sequence when given in the large dose, and he has to administer his remedy in a dose so small as gently to stimulate the partially paralysed sympathetic to such a point as shall enable it to reinduce contraction of the arterioles and capillaries, and to oppose and balance again the hyper-excitation of the motor fibres.

When the febrile state is general and simple, the chill stage is of very evanescent duration, and is easily met by a warm bath or by placing the patient in bed, but as soon as the quickened pulse and heightened temperature show the incipient paralysis of the sympathetic, then *Aconite* becomes our appropriate remedy, and in simple cases this single remedy will suffice to the end.

In his *Manual of Pharmacodynamics** our esteemed colleague Dr. Richard Hughes says, in speaking of the physiological effects of *Aconite*, p. 36 :—"Some very striking phenomena are observed in the sphere of the circulation. In acute poisoning, the dilated pupils, the pale face, the quick and contracted pulse and the general coldness within and without, speak of an excitation of the vaso-motor nerves throughout the body." "In other words, we have a condition answering to the chill of fever." "When reaction takes place the condition of febrile heat succeeds to that of chill." "In the 'Austrian Provings' one prover was so distressed by the febrile heat induced, that, not knowing what drug he had been trying, he commenced taking *Aconite* to obtain relief." "Further evidence," says Dr. Hughes, "if such were needed, of the action of *Aconite* upon the vascular nerves is afforded by the effects of its local application. Drop (as Prevost and myself have done) some of the diluted mixture on the web of a frog's foot and you will see under the microscope the primary contraction and secondary dilatation of the arteries, which are just the febrile chill and heat upon a small scale."

* *Manual of Pharmacodynamics*, 2nd edition. London: H. Turner & Co.

In these experiments we see that the effect of a large dose of *Aconite* and that of a chill are similar, viz. over-excitation of the sympathetic nerve-fibres acted upon, during which the arterioles and capillaries become contracted and emptied, followed by a consequent and proportionate enfeebling or paralysing reaction, during which the arterioles and capillaries become relaxed and gorged.

Now, if we see a patient suffering from the febrile state consequent upon a chill, and give small doses of *Aconite*, we excite or stimulate the enfeebled sympathetic, and our art should teach us to select just such a dose as shall stimulate the vaso-motor nerves up to their healthy standard, neither more nor less. A large dose would increase the evil by inducing medicinal over-excitation of the nerves and consequent increase and prolongation of the subsequent febrile state. The small dose, and, in some cases, the infinitesimal dose, becomes, therefore, a necessity when we look upon the *rationale* of medicinal action used for the purpose of direct stimulation of an enfeebled and partially paralysed nervous tract; and the reasonableness of Hahnemann's warnings against over-dosing as leading to possible medicinal aggravations becomes forcibly apparent.

If we pass from the contemplation of simple fever to the consideration of cases of more complication, where disease-germs or poisonous influences have entered the system, and have induced their specific forms of inflammation in certain tracts or organs, again our homœopathic rule guides us to a definite remedy, for, that medicine, which can produce the simillimum of a specific febrile state, must do so by its power to paralyse the same nerve tracts by which the arterioles or capillaries of a given tract or organ have become the seat of the chief disease. For example, the sore throat and scarlet rash of true scarlatina have their counterpart in the sore throat and scarlet rash induced by *Belladonna*, and when the tonsils and skin have become the seat of an idiopathic febrile state, the small doses of *Belladonna* exert their specifically stimulating power over the partially paralysed sympathetic nerve-fibres supplying the

capillaries of the skin and tonsils. Even when we are powerless to quell the whole disturbance, we are usually able to so far direct its course as to rob the febrile state of its destructive power, and to restore such power to the system as promotes a fair degree of functional activity.

Take another example : pure gastritis, the reddened clean tongue smooth as if polished, the extreme irritation of stomach, with pain and anguish, have their analogues in the poisonous effect of *Arsenicum*. When we see the arterioles and capillaries of the mucous surface, idiopathically, thus acutely congested, and their secretions arrested, we give the small dose of *Arsenicum*, knowing that it will stimulate the partially paralysed sympathetic nerve-fibres up to their healthy power of control.

It is not from any desire to draw an invidious comparison between the two schools of therapeutics that I proceed now, very briefly, to review the treatment which is recommended by the foremost prophets of the older school; and, firstly, let us examine the means by which Dr. Lionel Beale proposes to treat the febrile state.

On p. 353 of the work above referred to, he thus speaks "of the treatment of slight fever," or rather of a feverish cold. He advises warmth either of bed, with plenty of blankets, or the neighbourhood of the fire and a warm bath, with the intention of determining the blood to the surface, exciting the glands to act, and by free perspiration, of relieving the blood of certain constituents which were accumulating in it to the detriment of the organism. Free diaphoresis is the indication to be aimed at. These means belong rather to nursing and management than to medicine, and there is no doubt but that rest, warmth, and the warm bath, are invaluable auxiliaries in the treatment of the febrile state. So far both schools will agree, but Dr. Lionel Beale, proceeding on the assumption that the accumulated bioplasm in the blood is the cause of the febrile state, goes on to recommend such medicinal means as tend to destroy this bioplasm, to convert it into excrementitious substances, and to stimulate the eliminative functions to cast it out of the body by free action of the skin, kidneys, and bowels.

Especially this author praises *Calomel* and other mercurial preparations. "These," he says, "promote free action of all the glands which pour their secretions into every part of the alimentary canal, from the mouth to the anus. By this free excretion quantities of peccant substances are removed from the blood which otherwise would have remained there." On the same grounds the author highly praises "the beneficial action of diuretics, sudorifics, of a course of German waters, and the frequent use of the warm bath and of the Turkish bath." He not only advises these means for the febrile state, but recommends to those who live in cities, who take little exercise, and who frequent heated rooms, the recourse from time to time to such drugs and means as "artificially excite the free action of the skin, kidneys, and bowels from time to time," since he alleges that by habitually using these means, and by care in eating and drinking, the liability to "troublesome febrile attacks, to contagious fevers, and to inflammatory disorders," will be greatly diminished.

Summed up in a few words, therefore, Dr. Lionel Beale's theory of the febrile state is, that, in this state, the blood is found loaded with bioplasm to a degree incompatible with health, hence the indication is to destroy the superabundant bioplasm and to cast it out.

The error in this system of treatment is, that such treatment is destructive, and therefore wasteful of healthy structure, even where it is not dangerous to the patient, as it must often prove. The treatment of the febrile state by active artificial elimination is essentially opposed to that conservation of force which should be the aim of the physician in the treatment of his patient.

It may be true that in the febrile state more bioplasm exists free in the blood than is found there in health, but it is not from any excessive formation of this bioplasm, but from the arrest throughout the body of the power to assimilate this pabulum.

What takes place in the body under such circumstances has, not inaptly, been compared to what would occur in our metropolis if every house, hotel, warehouse, and wharf were

suddenly closed, while road and river and rail still uninterruptedly continued to pour into our city the usual daily supply of passengers and goods. A vast amount of irritation and of blockage would ensue, and this is just what occurs in the lesser world of the human body when in the febrile state.

The cure for such a state of things would not be found in slaughtering the living mass and carting it to the cemeteries, or in throwing part of the goods into the river and in burning the rest, but in reopening the houses, warehouses, and wharves, and in stopping further influx of goods and passengers till the streets and thoroughfares were unencumbered.

In place of burning, destroying, and casting away as the allopath counsels, the homœopath would seek to check further influx, and to find the keys to open as wide as possible the doors and gates of wharf, warehouse, hotel, and house, and thus to save the city from dire catastrophe.

"Oxidation, conversion of bioplasm into urea, uric acid, carbonic acid, and other substances easily excreted," is equivalent to burning, slaying, and burying, and is to be deprecated so long as preservative measures are possible by all wise rulers and by all careful physicians.

Nor even do these heroic measures compass the end for which such tremendous sacrifices are asked. For instance, in rheumatic fever the patient is sweating profusely and passing uric acid, possibly too he may have diarrhœa, but all this eliminative and destructive energy gives him no relief whatever.

Or, taking another example, typhoid fever, does the presence of diarrhœa cure or even reduce the febrile state? We all know that it does not; on the contrary, it diminishes the patient's chance of recovery. Dr. Lionel Beale is perhaps well aware of this, since he says, on p. 363, "to purge freely just as an attack of enteric fever is coming on would unquestionably be very wrong;" but if it be wrong, as we all know it would be, then the whole of this prettily constructed theory of purging and sweating and urinating away the febrile state falls to the ground, for no better

example of the febrile state with its superabundance of bioplasm and its heightened temperature and quickened pulse is to be found than is to be met with in typhoid fever.*

* In the first volume of the *Annals and Transactions* of the British Homœopathic Society is published a paper "On the Treatment of Intermittent Fevers," which I had the honour of reading before this Society. In it I attempted to show from an analysis of seventy-five cases of ague that the surest way to cure the disease was to individualise each case carefully and to treat it in strict accordance with the homœopathic rule of similars. I did not attempt to give any explanation of the reason why *Quinine* or *Arsenic* should be unable to cure certain cases of the disease, but contented myself with showing that, although these two drugs will cure by far the majority of intermittent fevers, yet that a material number remain uncured, no matter what doses of *Quinine* or *Arsenic* may have been given, and that these cases yield to other drugs given in small doses and in accordance with a strict adherence to the rule of "similars."

I do not propose to reopen the question of the treatment of intermittent fever, and I allude to it here because, in its paroxysm, it gives us an example of all the phases of fever in its microcosm, viz. rigors, followed by increase of heat of skin, quick pulse, languor and lassitude, ending in diaphoresis; and because, by its recurrence within a certain time, it shows that the diaphoresis is not to be looked upon as a critical discharge, curative of fever.

In continued and some other forms of fever, therefore, when medical writers speak of the diaphoresis, diuresis, or diarrhœa (which follow the febrile state, just as the sweating stage follows the hot stage of an intermittent), as if these discharges cured the fever. They fall into error in thus accepting the *post hoc* as the *propter hoc*, an error which, when applied as an indication for treatment, has been and is productive of much mischief by leading them to employ diaphoretics, diuretics, and purgatives in the treatment of the febrile state. The true explanation of the sequence of the three stages of fever, as shown by recent physiological and pathological research, proves the fallacy of this method of reasoning. The artificial production of the symptoms which accompany the last stage of a febrile paroxysm will not necessarily cure a fever. Nay, by the forcible over stimulation of the secretion of certain organs, at too early a period of the fever, we may weaken their eliminating power at that later period when their activity becomes essential to a cure, and thus such interference may greatly prolong the period of convalescence.

This truth has been appreciated by more than one of the foremost allopathic practitioners. The school which confines itself to such sustentation of life as is afforded by careful nursing and dieting during the febrile state is far more successful in its treatment of fevers than the more heroic school who, arguing that an artificially induced crisis is as good as a natural one, apply medicinal drugs to the great hurt of their patients and sometimes to the tragical sacrifice of disease and life together on the altar of their false science.

At the same time the art and science of medicine ought not to rest satisfied

It is strange to turn over the pages of this most modern of books, written by the foremost physiologists of the day, and to find it singing the praises, not only of purgatives and sudorifics and diuretics in disease, as if no practical progress had been made in medicine during the past century, but to find, as we do on p. 364, "I doubt if the old woman's detestable dose of warm salts and senna, administered with never failing regularity once a month to each unfortunate little schoolboy of former days, was by any means an unwise or unscientific proceeding. I am not at all sure that many an organism which becomes the victim of disease-germs would not have been able to resist the contagion had the excreting organs been judiciously excited to moderate action at the proper intervals of time." And so the praise of salts, senna, jalap, scammony, and cream of tartar continues to be sung by this modern medical prophet, and the exploded practice of the routinist comes back to us under the ægis of modern allopathic science.

Two other great engines, however, are brought to bear against the febrile state by modern allopaths—*cold* and *alcohol*.

The thermometer bears no little part both in diagnosis and in the regulation of treatment. The temperature of the body in the febrile state may range from the normal 98°, to 107° or even 110°, but when a temperature of 107° is reached (and sometimes even at a lower temperature) a fatal result generally ensues. Dr. Lionel Beale asserts that the rise in temperature in the febrile state is due to the rapid growth of bioplasm within the blood and tissues, and that whatever will tend to check this growth of bioplasm will tend to lower the temperature and to reduce the intensity of the febrile state. The two agents which most readily meet this indication he states to be alcohol and tonics, but in addition to these he also mentions the effects of continued cold.* with the mere direction of nursing and dieting, with the sympathetic smoothing of the patient's pillows and the exhibition of kindness and love. All these things, needful as they are, and happy as they are in their effects upon both the patients and their friends, yet fall far short of what the physician should do as high priest in the *Æsculapian* temple.

* *Disease Germs*, p. 327.

The excess of bioplasm being, according to Dr. Lionel Beale's view, the cause of the febrile state, its removal, its change of constitution, or a check to its formation, will tend to abort the febrile state or to remove it. In considering the effects of external cold in fulfilling this indication, Dr. Beale reviews Dr. Wilson Fox's cases, published in an essay entitled "*The Treatment of Hyperpyrexia*" (Macmillan and Co.), and while giving full credit to the skill by which two patients, suffering from acute rheumatism, were rescued from imminent death by the application of ice and ice-cold baths (the temperature of the body being 110° and 107° respectively), he yet attributes part at least of the good result to the administration of brandy which was given at the same time. Six ounces of brandy was given while the patient was in the bath (in one case), and eighteen ounces a day for several days subsequently, and from twenty-four to twenty-eight ounces in the twenty-four hours in the other case.

In the first of these two cases the temperature of the patient fell from 110° to 103° in half an hour, and to 99.50° in less than another half hour. Dr. Beale attributes this fall of temperature more to the brandy than to the cold, and says that he has seen many cases of a like rapid fall of temperature where brandy had been given without the cold. The case of septicæmia, read at our last meeting by Dr. Hale, corroborates this view. The administration of ʒii of brandy every hour was followed by a steady decrease of temperature from 105° to the normal standard at the rate of $\frac{1}{2}$ a degree per hour with a corresponding diminution in the pulse beat. On the other hand, Dr. Fox quotes a case treated by Dr. Meding where the temperature fell from 108.6° to 99.5° in five hours during the application of ice-cold cloths to the body and enemata of iced water every half hour. The pulse fell from 140 to 72, perspiration ensued, and the patient rapidly recovered. In this case no brandy was administered.

The question becomes very interesting as to how does cold act in these cases. Taking into consideration all that has been said above as to the semi-paralysed condition of

the vaso-motor nerves and the consequent engorgement of the capillaries and arterioles in these cases, is it not probable that the rapid recovery following ice-cold cloths, iced-water injections, and cold effusions, results from the stimulating effect of cold upon the vaso-motor nerves rather than from the mere abstraction of heat?

"In very severe cases of fever," says Dr. Beale, "what we have to apprehend, and that which our greatest efforts should be directed to avert, is *stagnation of the blood in the small vessels, and cessation of the capillary circulation over a considerable part of the body.*" Perhaps no single means is so likely to prevent this *stagnation* as cold affusion, or in severe cases the application, of ice cold. It is probable also that by this local stimulation over the whole surface, not only are the vaso-motor nerves enabled to contract the capillaries and thus to avert stagnation, but also that the nutrition of tissues is stimulated, and thus that the bioplasm becomes absorbed and utilised, by which the temperature is lowered and healthy functional life once again is awakened into action. There is much which would lead us to conclude that the action of cold, *if not too long continued*, is in fact a more direct stimulant or excitant to the peripheral nerves than brandy. Dr. Beale, indeed, does not claim the good results which follow the administration of brandy in the febrile state as due to its stimulating power, but attributes its efficacy to its "diminishing the rate at which vital changes are proceeding, in fact, by causing particles of bioplasm which were living *too fast* to live *more slowly* and by causing the death of many." It is doubtful if this view be correct; at least, there is much to be said on the other side, and still more to be said as to the homœopathicity of the action of brandy which, when administered to the healthy man, will induce an artificial febrile state very perfectly, even to its stage of delirium. This is conceded by our author, who says (p. 424), "that alcohol will produce delirium in health and remove or prevent the occurrence of delirium in an exhausted state of the system are facts, but they cannot be fully explained in the present imperfect state of our knowledge of nerve-centres

and nerves, especially of the nerve centres which control vascular phenomena."

Before leaving the consideration of the therapeutic effects of cold, I must say a few words on Dr. Chapman's views on this important subject. He founds his principles on the following propositions:—"That every gland and glandular follicle in the body is under the control of one *motor nerve* emerging from the *cerebro-spinal* system and distributed to its secreting cells in order to regulate its functional activity; and of another *motor nerve* emerging from the *sympathetic* system, and distributed to its artery or arterial twig in order to regulate its blood supply," and further, that "every tissue of the body is thus supplied with two similar sets of nerves," and is "thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions."

He assumes that when the sympathetic ganglia are in a state of *hyperæmia* the energy of the sympathetic nerves is increased so excessively as to induce tonic spasm in the coats of the arteries and vessels they supply, this spasm may be so intense as to shut off the blood altogether from a large proportion of the peripheral arteries.

In like manner, when the spinal cord is in a state of *hyperæmia*, muscular cramps are likely to ensue.

Dr. Chapman asserts that the spinal cord and the sympathetic ganglia can be rendered hyperæmic artificially by means of heat, or anæmic by means of cold applied along the spine. He finds that cold applied by means of an *ice-bag*, about four inches wide, down the spine increases the general circulation and bodily heat, and he explains this fact on the hypothesis that ice exerts a direct sedative influence over the organic nervous centres. The result of many experiments, he says, confirms the view that "the peripheral circulation, and consequently bodily heat, are increased by ice applied along the spine.

On the other hand, Dr. Chapman says that heat applied along the spine will lessen the general circulation and bodily heat, and will increase secretion.

In the application of heat, however, Dr. Chapman does

not place the hot-water bag over the spine but on either side of the spine. He uses hot water of a temperature of 120° Fahrenheit.

The discrepancy which at first sight appears between these results of Dr. Chapman's experience and that of Dr. Wilson Fox is more apparent than real. In the cases treated by cold, by Dr. Fox, the whole surface was exposed to the effects of the ice-cold water, and the impression was made directly on the whole peripheral nerves. Cold to the spine, affecting the nervous centres alone would probably induce analogous symptoms to those which would follow the application of heat to the whole surface of the body, and heat applied to the spinal region alone would induce similar symptoms to cold applied over the whole surface of the body. I have myself frequently verified the truth of Dr. Chapman's assertion that the application of ice to the spine increases the peripheral circulation, and, therefore, the bodily heat; but whether his theory be correct that this effect is induced by an artificially anæmic condition of the organic centres, induced by the continued cold, demands further experimental inquiry.

If Dr. Chapman's principle be founded in truth, then during hyper-pyrexia heat (not cold) should be applied over the spine.

Although, in the treatment of certain functional diseases, I have seen great good result from the use of the spinal ice-bag and hot-water bag when respectively indicated, I doubt whether this treatment would be found applicable in the treatment of the hyper-pyrexia of the febrile state. And if Dr. Chapman's explanation of the phenomena be true, that heat or cold applied to the spine induce an artificially hyperæmic or anæmic condition of the spinal cord and organic nervous centres, I should conceive that such treatment might, in some cases, prove a source of danger from the artificial paralysis or over-excitation induced.

Before concluding I must allude very briefly to Dr. Meryon's views as expressed in his *Rational Therapeutics*. Acting on the knowledge that "every sympathetic ganglion is connected with both motor and sensory nerves as well as

with its own special nerve-fibres;" and acknowledging the controlling function of the sympathetic nerve-fibres over the circulation, he advises that drugs should be given with one of two objects, either to "increase the inhibitory influence of the nerves of Remak," or to stimulate the vasomotor nerves through the sensory nerves, thus acting upon them through a reflex action. He instances *Ergota* (*Setale*) as a drug possessing the power of directly stimulating the sympathetic nerve-fibres, and refers to counter-irritants as inducing the reflex action through their influence on the sensory nerves.

It is a matter of great regret, on looking through the pages of this most interesting little work, to find how weak are its practical therapeutics. Its principle is good and true; but its suggestions for the practice of medicine upon the neuro-therapeutic basis are vague and puerile.

It is true that he admits the local action of certain medicines, and classifies certain medicines as exerting antagonistic powers over the same tracts. Thus, he instances *Opium* and *Chloral* as having antagonistic action over the nerves, controlling the circulation through the brain, *Opium* stimulating the motor nerves, while *Chloral* suspends the activity of the motor and sensitive nerves (p. 45). In like antagonism, he places "*Aconite* and *Digitalis* in their action on the heart; *Mercury* and *Opium* on the liver; *Turpentine* and *Uva ursi* on the kidneys; *Phosphorus* and *Bromide of Potassium* on the organs of generation," &c.

But his application of his principles is far too vague and indefinite to enable those who read them for the first time to carry them into practice, unless it lead them to inquire into the therapeutic advances made by our school. I cannot conceive that neuro-pathology can find any other mate than homœopathy, and those who ignore this inevitable procession of its principles must do so either in ignorance of our therapeutic method or in wilful blindness, prejudice, and hardness of heart.

Lest I be thought to be criticising the so-called rational therapeutics too harshly, I will read but one short extract. On page 53 the author says, "I have described how the

peculiar innervation of the heart renders that organ capable of regulating its own action, by exerting a reflex action on the wide-spread vaso-motor nerves of the general circulation."

"Fever presents us with a pathological instance of the independent condition of the organs of circulation. With a contracted pupil there is a rise of temperature, the walls of the heart are preternaturally excited; the balance of function is suspended, the motor fibres of the vaso-motor nerves obtain the supremacy, and it is precisely those medicines which depress their function, or which stimulate the nerves of Remak, which are found to be most effectual as remedial agents. The alkaloid of *Veratrum*, extolled as a remedy in fever by Trousseau and Aran in France, and by Vocher in Germany, has been carefully studied by Dr. Horatio Wood, of Philadelphia, who has determined that it exerts no direct influence on the brain; but that it *depresses the functions of the spinal cord and heart*, diminishes sensibility, restrains the action of the vaso-motor nerves, renders the respiration lower and reduces the temperature of the body."

"But whilst its effect in lowering the temperature is conspicuous, the gastric and cardiac symptoms which it evokes are sometimes so serious that we should give it with much circumspection until we have data for predicating the class of cases in which these untoward effects are apt to be induced."

What I particularly wish to bring under your notice in the above extract is this. The author admits that there are two methods of curing fever by neurotherapeutics, the one by depressing the function of the motor and sensory, the other by stimulating the sympathetic nerve-fibres. He admits that fever is caused by the depression of the sympathetic, and that the excitation of the motor nerve-fibres is only relative and dependent on the depression of the sympathetic.

Nevertheless, with two methods before him, the one that of stimulating the depressed nerve up to the health standard, and the other that of depressing the nerve which is healthy,

he deliberately recommends the destructive policy of depression, although he allows that it is apt to induce *serious gastric and cardiac symptoms*, and suppresses all mention of the conservative and genial means of cure contained in the alternative method, for no purpose that I can conceive, save that it is adopted by the homœopathic school, and therefore, however health-giving, conservative, and safe, it must be tabooed in deference to the allopathic Mrs. Grundy.

The action of *Belladonna* on the sympathetic nerves is, however, acknowledged, on the authority of Dr. J. Harley, who claims it as inducing a "tonic and slightly contracted condition of the whole circulatory tubes." "Hence it suggests itself as a remedy in fever, and the more so as, *being eliminated by the kidneys, it increases the secretion of urine.*" How fondly, in these last few lines, do we see the allopath clinging to his pet theory of elimination—*Belladonna* given in the minute dose, equally and, indeed, far better cures the fever; *the elimination*, through the kidneys not being a curative reaction, but the effort of the system to throw out the over-dose of the drug.

Allopathy also prescribes *Chloral* in fever on the hypothesis that it deadens the influence of the motor fibres of the vaso-motor nerves, and thus "virtually puts the fibres of Remak in a condition to occlude the minute vessels." It is this indirect and mischievous method of attempting to restore the lost balance—the laming of both legs to make a lame man go evenly, which we as homœopaths are bound to oppose.

In place of deadening down the healthy set of nerves, we ought to stimulate and elevate the depressed set of nerve-fibres. This is an impracticable feat to him who deals only in gross and large doses, but becomes easy to that practitioner who uses small or minute quantities of medicinal agents.

Fineness and accuracy of balance thus become the part of homœopathic therapeutics, and I look confidently forward to the time when the whole profession, acknowledging the principle that elevation of the depressed set of nerves to their healthy functional standard is the true indication for

medicinal treatment, will be led by their common sense to the conclusion that in treating disease through channels so sensitive, means of great delicacy should be sought, and in this search they will be led to the full, though late, appreciation of the true value and scientific precision of our homœopathic system of posology and therapeutics.

I regret that space is not left me for fuller discussion as to the value and position of *Alcohol*. This question has been most ably discussed by our colleague Mr. Pope in an essay read before the Society some years back, which has been published in the third volume of our homœopathic *Annals and Transactions*, in which he very ably shows that this agent is to be looked upon in the light of a homœopathic remedy when given in disease, and to be administered in small doses in those cases which most closely resemble the alcoholism induced by the poisonous or large dose.

Lionel Beale's admission quoted in an earlier part of this paper gives a very valuable confirmation of these remarks, as also do the investigations conducted by Dr. Anstie, and reported by him in his article on "Alcoholism," in Russell Reynolds' *System of Medicine* (page 65).

Discussion on Dr. Bayes' paper.

Dr. DUDGEON said it was curious to find that, with all the assistance of the most recent discoveries in physiology and pathology, Dr. Bayes had arrived at an explanation of the mode of action of medicines in fever which differed little, if at all, from that proposed many years ago by Fletcher, of Edinburgh, viz. that fever was essentially a deficient action of the vaso-motor nerves, and that the effects of the appropriate medicines was to stimulate these nerves up to the normal healthy action.

Dr. DEURY, while of opinion that it was very necessary that scientific inquiries of this kind should be made, and that homœopaths should be familiar with what was going on around them, felt that the value in practice of such researches might evidently be over-estimated, and their adoption even lead to results different from what might be expected. He remembered, a few years ago, reading a scientific explanation of the treatment of a case of uterine hæmorrhage by Dr. Tyler Smith; the paper was in-

teresting, explaining how this proceeding acted on such and such nerves, how reflex action was produced, how the stimulants did their part; all was no doubt correctly explained, but he felt at the time that a doctor might get bewildered in attempting to work on such strictly scientific principles, while an equally good result might be obtained by very much the same mode of proceeding—pressure, clearing out clots from the uterus, application of cold, administration of brandy and beef tea, the employment of *Secale* or some other remedy that acted directly on the uterus. There were many points worthy of commendation in Dr. Bayes' paper, his summing up and explanation of different modes of action; and if it were thought that such inquiries were of less value in practice than they deserved from the trouble they cost, the fault was that of those who set them on foot, not of Dr. Bayes, who gave us the summary of them; but he did not feel disposed to use the word fault, for a time might come that such inquiries might lead to practical discoveries of great value. Everything depended on the way in which such inquiries were conducted, and their results utilised.

Dr. BAYES said that he fully agreed with the remarks which fell from Dr. Nehrer, that a careful individualisation of symptoms was needed in order to select the right remedy in fever; but it nevertheless appeared to him that the recent views on the pathology of fever were of the greatest interest to the homœopathic school, as affording them a scientific explanation of the reason how and why medicines act. It was of no slight moment to show that we are following a scientific principle, and not blindly adhering to a dogma. Dr. Burwood's experience as to the failure of *Aconite* to lower the temperature in typhoid, while *Baptisia* did lower it, was most instructive, whether this medicine acts by controlling vaso-motor action, or in consequence of its antiseptic power, it is difficult to determine until far more experience has been recorded, but when given in small doses, the former appears to be the more likely hypothesis. In answer to Mr. Wyburn, he (Dr. Bayes) would remark that to act chemically and destructively on bioplasm is an allopathic rather than a homœopathic proceeding, and could only be accomplished by large doses of the agents employed.

ANNUAL MEETING OF THE LONDON HOMŒO- PATHIC HOSPITAL.

THE twenty-third annual general meeting of the governors and subscribers was held at the hospital, Great Ormond Street, on Wednesday, the 30th May, 1873.

The Right Hon. Lord Ebury, Chairman of the Board of Management, took the chair at three o'clock, when the Rev. T. Nolan, the chaplain, opened the proceedings with prayer.

Mr. JOHN W. WARREN, the clerk, then read the notice convening the meeting and the minutes of the last court, which were confirmed and signed, after which

Mr. CHARLES TRUMAN, the official manager, read the following report of the Board of Management :

"The Board of Management in making their Annual Report to the Governors and Subscribers to the London Homœopathic Hospital, solicit their special attention to its position as now set forth.

"The total numbers of Patients treated in 1872 was 7410, of whom 485 were In-Patients, and 6925 Out-Patients, showing, as compared with the returns of 1871, a decrease of 39 In- and 183 Out-Patients. The decrease in the number of In-Patients occurred during the first months of the year; and the causes which led to it have been removed. In fact the Board have the great satisfaction of stating that ever since the month of September, the Wards of the Hospital have been absolutely full, and the Medical Staff have constantly to keep cases waiting for admission. For the first time since the establishment of the Hospital, the whole of the sixty beds are continually filled. The number of the Out-Patients depends simply upon the requisite attendance of the members of the external staff; and the long and continued illness of one of its members has operated somewhat prejudicially.

"The total number of Patients treated from the opening of the Hospital to 31st December, 1872, was 104,086.

"It may be remembered that the Balance due to the Bankers at the close of 1871 was £46 10s. 5d., the Hospital being in debt to that amount; and the Board regret that this debt was increased at the close of 1872, when the Balance due to the Bankers was £113 4s. 9d. The year's income from all sources,

including £808 13s. 8d. (the nett proceeds of the dinner at Willis's Rooms on 23rd April) reached £2926 9s. 9d., an increase as compared with the preceding year of £33 1s. 7d.

"On analysing the income it appears that the dividends gave us £22 in excess of 1871. The amount received for nurses sent out to nurse privately was £165 6s. 6d., showing an increase of £19 19s. 0d.; and reckoning the amount realised by the Dinner £808 13s. 8d., against £200 16s. 0d., raised the previous year by special appeal, it would show an increase on this head of £607 19s. 8d. Proceeding further in the analysis, the registration fees yielded less by £3 19s. 0d., naturally caused by the less number of Out-Patients; the Subscriptions were also less than those of the previous year by £27 14s. 0d., being £1062 7s. 0d. in 1871, and £1034 13s. 0d. in 1872. The Donations were £577 4s. 11d. less than in the previous year, having amounted to £927 15s. 6d. in 1871, and to £350 10s. 7d. in 1872. The amount is considerable, but it is well known that this source of income has and will always vary from time to time. We cannot judge of the prosperity of the Hospital financially by the donations received, but must look to the amount of Subscriptions as the true index. The Board trust, therefore, that each and all of the Governors and Subscribers will exert themselves to obtain fresh adherents as Subscribers. As exemplifying how uncertain a source of income are donations, it will gratify the Governors and Subscribers to learn that during the past month the Treasurer received £500, to be expended in making improvements to the Hospital, improvements long needed. This generous gift will appear in next year's accounts.

"The Board of Management regret to state that the Expenditure is in excess of that of 1871 by £291 17s. 3d.; of this considerable amount, £170, being by far the larger portion, has been caused by the increased price of provisions and fuel. The cost of printing is always also greater on the occasion of any festival as of the Dinner last year, and this item, together with a somewhat increased amount for advertisements, caused an additional expenditure of nearly £50; a slight increase of house repairs, the salary for three months of the Visiting Medical Officer (to which appointment reference will be made subsequently) and sundry other items, raise the increased expenditure to £291; but regarding the principal expense as caused by the enhanced price of provisions and fuel, the Board do not think this heavy increase could have been avoided, nor can they hold out the hope that expenditure will be diminished during the current year. It is far more likely to be increased.

"The donations, as has been stated, together reached the sum of £350 10s. 7d., and of this £231 10s. 0d. has been invested in Consols and new 3 per Cent. Annuities, thus making the total amount of the Reserve Fund on 31st December, £8568 3s. 8d.,

at a cost of £7882 1s. 11d. This is irrespective of the value of the house and furniture.

"The principal donors to the Hospital in 1872 were the Misses Smith, £50; J. S. Fletcher, Esq., £31 10s.; the Governors of the Society for the Relief of Persons Imprisoned for Small Debts, £50; and an additional legacy under Lord Henry Seymour's will of £100. The usual letters of grateful acknowledgement to these donors have been sent by the Board of Management, on the part of the Governors and Subscribers.

"The Governors and Subscribers will remember the efforts which the Board of Management made during past years to improve the nursing of the Hospital, and that to some extent considerable improvement did take place. The Board, however, in the course of this improvement felt that, to carry out the nursing as they would wish, it would be necessary to have the services of a lady, trained regularly as a nurse, who had devoted herself to the cause of nursing, like Miss Nightingale, and others, with the object of alleviating the ills of suffering humanity. For more than two years such a lady had been sought for in vain. In the summer of last year, however, the Board were more fortunate, and a lady (Miss Bendall) presented herself with a trained nurse's certificate from St. George's Hospital, and with testimonials of the highest order. The Board were, therefore, induced to appoint her as Lady Superintendent of Nursing. Although only six months have elapsed since she came into office, the Board feel gratified in being able to state that very great improvements have taken place in the nursing; and that the well-being of the Patients is most efficiently cared for. It will be satisfactory to the Governors and Subscribers to know that Miss Bendall is a thorough homœopath.

"The appointment of a Lady Superintendent of Nursing liberates the Matron from any charge of the nursing arrangements; and the Board, on the part of the Governors and Subscribers, have thanked the Matron for the supervision she endeavoured to give them for so long a period, in addition to her more immediate duties.

"These changes will ultimately require alterations in the laws; but the Board, feeling it premature to propose definite arrangements to this General Meeting, will request permission to continue their temporary regulations, which they can change from time to time, until the next Annual Meeting.

"The system of sending out Nurses to private Patients is found to be beneficial, and has been continued successfully during the past year. The Nurses of the Hospital are much sought for.

At the Annual Meeting last year the Board of Management announced that at the Dinner given that week in aid of the

Funds of the Hospital, only £800 had been received as against £1350 at the previous Dinner; and they expressed an opinion that they would probably be compelled to appeal in some form or other for further support to the Governors and Subscribers. The fear they then expressed has been realised; and all those interested in the Hospital have already received cards for a special appeal on its behalf. This appeal has, as yet, realised no more than five hundred pounds, a sum far short of that for which even the appeal prayed; and since that appeal was published, the notable advance in the price of fuel has occurred; and should that advanced price continue, the cost of this heavy item of expenditure will probably be doubled. The Board feel that the plain statement of their needs should induce all who are able amongst the many interested in the Hospital to aid freely. It would be indeed a grievous discouragement to the Board, when the Wards are and seem likely to remain full, to be compelled to order any portion of them to be closed.

"The Board have also felt that although every other Hospital has its Annual Dinner, it would be of great advantage, as causing less strain on the kindly exertion of the Medical Officers, if our Hospital Dinner could be only biennial. To assist in this, they have determined to make a strong effort to hold a Bazaar in 1874, under the hopes that its proceeds might be so considerable as to enable the Hospital to pass over one Biennial Dinner, and thus relieve its medical friends, since the Bazaar naturally entails more work and labour upon the Ladies. The project of this Bazaar is already in your hands; and the Board make a strong appeal to the Ladies to exert themselves and induce their friends to join in the good work, so as to make it the greatest success in the way of Festival which the Hospital has seen.

"The following members of the Board, Mr. Crampern, Mr. Crasweller, Mr. Humphries, Mr. Slater, and Mr. Williams, retire by rotation, but being eligible for re-election, offer themselves again to serve.

"It will be remembered that at the last Annual Meeting the Governors and Subscribers passed the following resolution, viz. "that for the reason assigned in the report, power be given to the Board to abstain from the election of a Medical Officer in the charge of In-patients, in lieu of Dr. Madden resigned, until the next Annual Meeting." The working of the Hospital with the diminished internal staff has been so far successful as to induce the Board to request further permission from the Governors and Subscribers to have the power to abstain from filling up the vacancy until the next Annual Meeting, by which time it is thought a definite determination as to the number of the Staff can be arrived at.

"The Board have for some years had under their consideration the appointment of a paid Visiting Medical Officer, whose duties shall be to visit such Out-patients at their own homes as were

unable to attend at the Hospital Dispensary. Many medical friends had thought well of the scheme, and on its being brought before the Medical Council of the Hospital, they strongly recommended its adoption. Dr. Blackley, formerly Resident Medical Officer, was installed in the post, having been chosen in consequence not only of his general knowledge of the working of the Out-Patients of this Hospital, but also from his having worked the proposed plan at the Homœopathic Dispensary in Liverpool. A further object was sought by the Board, viz. that the Visiting Medical Officer would have the opportunity of sending cases into the Hospital Wards, thus contributing to keeping them well filled. Dr. Blackley came into office in the month of October last; and it is yet too early to judge whether the plan will answer. Under these circumstances the Board would desire only the power of continuing the experiment under such regulations as may from time to time appear necessary, when, if their efforts are successful, the necessary alteration in the laws relating to the appointment will be proposed for formal adoption.

"The Visiting Medical Officer undertakes the duties of seeing Out-Patients on two days of each week, thus facilitating the working of the exterior staff.

"The Board regret that Dr. Vaughan Hughes, after many years' attendance on Out-Patients, as well as fulfilling his regular duties within the Wards, requested to resign his post as an external Medical Officer. The Board in accepting this resignation, conveyed their warm thanks to him for the punctual and unvaried attention which for so long a period he has paid.

"Fortunately, the Board were not placed in any difficulty by the resignation, since Dr. MacKechnie requested leave to supply the place of Dr. Hughes, and has now been performing the duties steadily for some months, in addition to those on his In-Patients.

"The posts of Drs. Bayes and Dudgeon, whose resignations were named in the last report, have been filled by Dr. Ryan and by Dr. Wheeler; the latter taking the duty of Dr. Dudgeon on the Thursday afternoon, in lieu of his previous Out-Patients' work on the Friday evening; while that evening is attended to by Dr. Blackley. The Board will request the Governors and Subscribers to confirm the appointment of Dr. Ryan made by the Board after the Medical Council's approval, in virtue of their power so to do when there is only one candidate.

"The Board cannot conclude this somewhat lengthy report without recording their grateful appreciation of the invaluable services of the Officers of the Medical Staff, whose skilful and constant attention has earned for them the gratitude of the In- and Out-Patients placed under their care.

"The Board desire also to thank the Lady Visitors for their

kind attention to the Patients, and for the time so ungrudgingly devoted to visiting the Wards of the Hospital.

"The Board trust that with the blessing of God brighter days are yet in store for the Hospital; so that more good may be done, and that the Hospital may become more effective as a means of spreading the tenets and practice of Homœopathy."

The noble CHAIRMAN, in an impressive and appropriate address, moved the adoption of the Report, remarking with satisfaction upon its clearness and honesty, upon the general state and management of the Hospital, upon the advantages that might be anticipated from the appointment of a medical officer to visit poor patients at their own homes, upon the reorganisation of the nursing department under the control of a highly qualified Lady Superintendent, and upon the full occupation of the beds by a better class of cases than formerly, concluding with the hope "that it might please God so to guide and assist them, that the Hospital might be able to do all that was necessary for the cure of disorders, and thereby administer to the comfort and happiness of those who had need of it."

The resolution was seconded by General CLARKE and carried unanimously.

Mr. POPE proposed, and Dr. DUNN, of Doncaster, seconded, a vote of thanks to the Board of Management, the House Committee, the Official Manager, the Treasurer, and the Sub-Treasurer, which, having been carried with applause, was duly acknowledged by ALEXANDER J. ELLIS, Esq., F.R.S.

Dr. HALE moved, and Mr. DUDGEON seconded, the re-election of the retiring members of the Board of Management, viz. Messrs. Cramporn, Crassweller, Humphries, Williams, and Slater.

The noble Chairman, in putting the resolution to the meeting, paid a well-deserved compliment to Mr. Cramporn for his untiring devotion to the interests of the Hospital, not only as a member of the Board of Management, but as one of the House Committee, whose duties were almost incessant, and upon whom the chief burden of the management rested.

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The noble lord being at this stage of the proceedings compelled to leave the meeting, the Chair was occupied by Mr. Boodle, the Deputy-Chairman.

The Rev. Dr. NOLAN proposed, and Dr. DEURY, in a humorous speech, seconded, a vote of thanks to the lady visitors.

The CHAIRMAN next moved the confirmation of the appointment of Dr. Ryan to the medical staff, as recommended in the Report, which was seconded by Mr. CRAMPERN and carried.

Mr. A. R. PITE then moved another recommendation of the Board, suspending the filling up of the vacancy in the internal medical staff for another year. Mr. C. TRUMAN, the official manager, seconded the resolution, which, having been carried,

The Rev. Dr. NOLAN proposed a vote of thanks to the noble Chairman who had left the chair, and to his successor, Mr. Boodle, the Deputy-Chairman, for their kindness in presiding over the meeting.

The motion having been carried by acclamation, and briefly acknowledged by the chairman,

The meeting was made special, and resolutions were adopted giving permission to the Board to continue the temporary regulations as to the Lady Superintendent of nursing until next year, and also that the Board should be empowered to continue the experiment with regard to the new post of Visiting Medical Officer.

The meeting then separated.

REVIEWS.

Syphilis ; its Nature and Treatment, with a Chapter on Gonorrhœa. By CHARLES R. DRYSDALE, M.D. London : Baillière, Tindall, and Cox, 1872.

IF there is one impression that, more than any other, gives a feeling of satisfaction after reading a book, it is that the author has not only fully grasped his subject but has given a fair review of its literature, and has succeeded in conveying to his readers a clear idea of his own opinions on the matter under consideration.

Such is the impression produced by reading the book before us. Dr. Charles Drysdale is evidently not only an advocate of the non-mercurial treatment of syphilis, but he is thoroughly acquainted with the nature and literature of venereal diseases. He gives his readers not only his own opinions but those also of most of the eminent writers on the subject, both ancient and modern. His book is a compendium of what has been written on the venereal disease, both in this country and in Europe and America ; and it places its readers in possession of the most advanced theories and practice of the day. Though advocating one particular mode of treatment, the author gives, honestly, fairly, and very fully, the opinions of those who differ from him ; the mercurialists have a fair hearing.

However much we may ourselves disagree with the author's treatment of syphilis, his thorough acquaintance with the subject on which he writes entitles him to a respectful hearing from us ; and the completeness and candour of his review of the different theories and modes of treatment of venereal diseases commend his book to our

careful perusal. It is a neat octavo volume of 165 closely-printed pages, containing as much matter as is usually found in books nearly double its size; and yet the whole appears to be composed of the choicest bits from the best authors, with short, appropriate, and requisite remarks thereon, without superfluous verbiage; almost every line contains something of importance. If there is any fault to be found with the style it is that the paragraphs are too long, and some of them include more than one point; and if any complaint is to be made against the book as a book it is that the type is too small and too closely set.

It would be improper to call the book an exhaustive or a practical treatise on the treatment of syphilis; in fact, it is not intended as such; its main purpose is to contrast, by historical and personal testimony, the mercurial with the non-mercurial treatment in order to show the superiority of the latter. The scientific treatment of syphilis, however, includes much more than the use of *Mercury*, or *Iodide of Potassium*, or simple hygiene. As well might it be maintained that gout must be treated either with *Colchicum*, or *Potash*, or nothing; that chlorosis must be met by *Iron*, or *Savine*, or nothing; or that scarlet fever, typhus &c., must be treated with the same remedies whether they attack the brain, the throat, or the bowels, or however different or complicated their manifestations. Syphilis should be treated according to its different phases; and it will sometimes require several medicinal antidotes; and, like hysteria, not unfrequently will it tax severely the therapeutic resources of the practitioner. As an argumentative essay on syphilis and its treatment (mercurial or non-mercurial?) this work is as exhaustive as it could well be, and leaves very little to be desired. The author does not attempt to characterise the different kinds of indurated chancre, or to individualise their treatment; indeed, he only incidentally refers to the primary manifestation of syphilis; he deals mainly with the constitutional disease; of this he gives a very full and complete account.

The work is divided into eight chapters; the two first are devoted to gonorrhoea and the following six to syphilis.

GORRORRHOEA.—Of gonorrhœa the author says it is probable that it always existed; it is a true venereal disease, though perfectly distinct from syphilis; in man it is almost always acquired from woman. In nearly all cases it is communicated to the male by contagion with true gonorrhœal pus; in some few cases, however, it may be excited by simple leucorrhœa; and, indeed, occasionally it "even develops itself in husbands after connection with their wives, who are to all appearances quite healthy." Pus may, however, come from the male urethra without gonorrhœa, from simple suppuration of the prostate or the neck of the bladder.

He looks upon gonorrhœa as a truly local disease; nevertheless, he believes in the reality of gonorrhœal rheumatism and iritis. "The author," he says, "has seen too many undoubted cases of articular rheumatism brought on by gonorrhœa to have any doubt on this point."

Viewing gonorrhœa as a purely local disease he treats it with injections only, and this "at all periods of the discharge." "Injections," he says, "do not cause orchitis or rheumatism; and they have no tendency to cause stricture; they are, on the contrary, the best means of preventing it by curing the gonorrhœa rapidly." His remarks on the treatment of gonorrhœal rheumatism and gonorrhœal ophthalmia painfully exhibit the poverty of old-school therapeutics. For the rheumatism the treatment is blisters, compression, and rest! And, "as to the treatment of these ocular complications of gonorrhœa, there is not much to be said. *Atropine* drop should be used locally in cases of iritis!"

With most of the foregoing, except the treatment, we cordially agree. We do not object to simple stimulating injections in chronic gonorrhœa, nor to the use of the proper specific medicines locally in the acute stage; but we are quite sure that gonorrhœa, like other local inflammations, is best treated with specific remedies introduced through the stomach.

SYPHILIS.—The major part of the facts and arguments brought forward in this part of our author's essay have already been referred to by us when noticing his former

productions on this subject (*British Journal of Homœopathy*, xii, pp. 106, 286), to which we would refer our readers; being quite as applicable to the present work (particularly pp. 290-1), which would be properly considered as an amplification and extension of his former essays.

In his opening chapter our author says he "cannot confidently affirm that he has made up his mind as to whether syphilis existed amongst the ancient Greeks and Romans, or whether it was a new poison introduced into Europe at the end of the fifteenth century." In his last chapter, however, he tells us that it was introduced into Europe by the companions of Columbus, and brought by them from America. "The 4th of March, 1493," he says, "was the miserable day in which syphilis appeared in Europe—Lisbon, Seville, Barcelona, and Gallizia, where the ships of Columbus landed; these were the first spots rudely infected." And he believes that the frightful ravages it produced in Europe at the end of the fifteenth and the sixteenth centuries depended upon the fact that in these new races syphilis found a very great susceptibility, as it evidently did in all virgin races, causing both the primary and secondary lesions to come on with greater rapidity and virulence than in races already inured to it; in fact, such a degree of susceptibility as to cause it to spread as a kind of epidemic; so that, according to Villalobus, "one twentieth of the people of Spain were eventually attacked by it;" and, according to Christoforo Girtanner, "a few hours after impure congress there showed itself in the prepuce or glans a rather itching vesicle, which quickly opened and became a chancre. In a few days universal lues followed. Over the whole body and face there appeared pustules the size of a pea, or sometimes a little nut, or sometimes a little larger. These appeared red and inflamed, and were accompanied by great pain, but did not pass into suppuration. To these were associated most cruel pains in the bones by night, and exostoses of all kinds, which became inflamed, and sometimes degenerated into caries." "And," says our author, "that the disease declared itself in a terribly frightful manner, is proved again, in that the poor patients

were, from the first, abandoned by every one, and even by the physicians. . . . Also the Parliament of Paris, in its decree of March 6th, 1497, expelled from Paris all who were suffering from the *grosse verole*. . . . A similar law was passed in the same year by the King of Scotland. . . . And it spread so rapidly in Barcelona that public prayers and fastings were offered up to God in order that they might be delivered from it. . . . From Spain it spread, by means of soldiers and commerce, to Italy and France, and then to Switzerland and to every other part of Europe; then to the coast of Africa, and amongst the Turks, the Persians, the Chinese, and the people of Egypt." After the human race had become more or less modified by it, it gradually became less virulent and fatal, till, as we find at the present day, death is but seldom a result.

Dr. Drysdale adopts M. Ricord's definition of syphilis; he says, "There can be now no doubt that syphilis resembles smallpox, measles, and scarlet fever in so many respects as to make it perfectly allowable for us to classify the disease amongst virulent, special, or zymotic diseases." Like them, he maintains, it has its period of incubation, constitutional eruption, local manifestation, increase, diminution and decline; and, like them, having run its natural course, it will in favorable cases cease, and leave the individual in a state of comparative, though of course modified, health, and with less, little, or no susceptibility to a future attack. In 1542 Vigo divided syphilis into two periods—the non-confirmed and the confirmed; Thierry de Fléry divided it into three—the ulcer, the eruption, and the period of exostoses and caries; Bazin adds a fourth—the quaternary period, when the internal organs are affected. Dr. Drysdale is himself, however, "inclined to leave out these stages, and merely treat syphilis as one long act; coextensive in some cases, if not in most (as proved by the rarity of fresh attacks) with the lifetime of the patient. "To make distinct periods in syphilis," he says, "is apt to confuse the student."

He is evidently inclined to restrict the term syphilis to

the constitutional manifestations, because of the uncertainty as to the primary ulceration, whether it is syphilitic or not.

Many ulcers occur on the genitals that are not followed by syphilitic symptoms. Indeed, he speaks of the rarity of syphilitic affections of the glans, the penis, or scrotum; and the real infecting chancre he calls only "the primary accident of syphilis;" and he speaks of "syphilis manifesting itself even before the primary lesion has disappeared." And he says:—"Notwithstanding all that has been written by the French authors, and by their followers in this country and abroad, there can be little doubt that cases do occur in which it is very difficult to give a certain prognosis as to whether syphilis will follow after an ulcer or not. We may say, in general, that when a slight superficial ulcer with a serous discharge has persisted for a long time, and when there is multiple glandular enlargement, syphilis probably exists. If the swelling of the gland is wanting we may hope that no syphilis is present. . . . Some six weeks or two months after the syphilitic sore appears we see some of the forms of eruption on the body, few or almost none of which leave any scars. First of all, in many persons poisoned with syphilis, we see a great amount of chlorosis, and observe a feverish reaction, accompanied by pains in the head and by rheumatic pains in different parts of the body. This is in many cases accompanied by falling off of the hair. The *café au lait* colour is often observable on the face as one of the earliest symptoms of syphilis. The temperature of the body falls notably in many cases of syphilis, and this takes place especially in women."

He then gives a long list, occupying twenty-eight pages, of the different manifestations of syphilis—true syphilis, not mercurial syphilis—and a truly frightful picture he makes out of perversions and destructions of every organ and every tissue of the body, from the crown of the head to the soles of the feet. This list is too long to give here, but we recommend our readers to peruse it, for it offers an explanation of the intractability of many chronic diseases. Among the many formidable indictments he brings against this insidious, penetrating, pervading, undermining and

destructive foe of humanity, he enumerates affections of the skin and mucous membranes of every kind and degree, from a slight blush of roseola to rodent ulcer, eating away their substance as a silkworm does a mulberry leaf. The whole glandular system, he says, is liable to attack, and sometimes it suffers severely. The eye, the ear, the nose, tongue, mouth and throat; pharynx, œsophagus, and stomach; the larynx, trachea, bronchi and the lungs are all apt to be affected and destroyed by it. The large intestines, the rectum and anus, may be invaded, producing ulceration and stricture, with intractable constipation or diarrhœa, and the peritoneum may be inflamed by it. The cartilages may be destroyed and the bones affected so that not only the limbs, but the whole osseous framework of the body may be entirely broken down. The penis may be eaten away, and the testicles, ovaries, and uterus are liable to be inflamed, indurated, and rendered useless, producing impotence, sterility, and abortion; the offspring may be so affected by it as to die at any time during utero-gestation, or immediately or very shortly after birth; or, just escaping, may carry the marks throughout the whole term of existence. The kidneys may be affected, and albuminuria result, and so the liver, and jaundice be produced, and the spleen, ending in leucothyæmia. The heart may be inflamed and the arteries obstructed by it, and the brain and nervous system throughout may be attacked so as to produce paralysis, epilepsy, low spirits, vertigo, headache, dementia, aphasia, diabetes, polyuria, locomotor ataxy, hemiplegia, paraplegia, ptosis, diplopia, strabismus, neuralgia, tic douloureux, sciatica, &c. In fact, there is scarcely a morbid condition to which the human being is subject but may be brought on and perpetuated by this truly protean disease; there is scarcely a chronic disease the physician is called upon to treat but may have had its origin in syphilis and owe its intractability to this poison. As to the duration of syphilis, unless properly and sufficiently treated, it "comes and goes, appears and reappears for years, with annoying persistency, and may last the whole lifetime." "The author has witnessed enlargement of the testicles

within a year after the virus was absorbed, and has also seen fresh nodes occur at least twenty years after the onset of the disease." "A gentleman at the age of 17 contracted syphilis, according to Fournier, and when at the age of 72 he consulted that gentleman for a tumour on the thigh, which was pronounced to be syphilitic and rapidly got well in three weeks under doses of *Iodide of Potassium*. Three years previously the patient had syphilitic caries of the upper jaw. He had, at the age of 17, suffered from chancre and secondary eruption, and had been told by the medical man that he had had syphilis. Since that time he never had observed *any* symptom of syphilis up to the age of 69, nor had he ever contracted gonorrhœa or other ulceration of any kind during his lifetime." And even the contagiousness of syphilis may continue for a long time:—"It is difficult to say," continues Dr. Drysdale, "when a person affected with syphilis leaves off being a focus of contagion . . . probably, however, in the course of six or seven years contagion rarely exists, or indeed in most cases is over in three years."

To syphilis in women the author devotes a separate chapter. He believes that syphilitic infection in women produces the same symptoms as it does in man; but the "patient not being aware of the gravity of the lesion, which appears insignificant because it produces no suffering, comes only late to consult the doctor, when the induration of the tissues has disappeared." "Hence sores on the vulva may easily be misunderstood, and thought to be soft when they are really hard chancres—*non-infecting* when they are really infecting; and this is the more liable to occur because from the moist condition of the parts they are extremely liable to be the seat of secondary ulcerations." "This is, in fact," he says, "the region where the local manifestations of syphilis appear first of all, and before even the primary lesion has disappeared, and here also they relapse with desperate obstinacy, and are perpetuated indefinitely." "Among the earliest symptoms of syphilis in women are the hypertrophic and ulcerous *syphilides*." "The ulcerated skin affections of the vulva resemble

syphilitic ulcers of the fauces. Their form is very variable, from the most superficial excoriation, in simple cases, up to deep ulceration in cases of malignant syphilis. In the case of syphilitic infection of woman the virulent disease often makes a violent attack on the nervous system. These nervous lesions consist of pains over the whole body, especially in the face and upper limbs. There is along with these pains often a remittent kind of fever, with profuse night sweats. Anæmia is also frequent in syphilitic women. Abortion is one of the most common affections in pregnant women."

As to the causation of syphilis the author admits direct infection by coitus from hard chancre; but he says mucous tubercles are the most frequent source; these are the most contagious of the secondary eruptions; then come pustular syphilitic skin diseases. Tertiary ulcerations, he says, seem scarcely ever to be contagious. An infecting ulcer anywhere will communicate the disease; kissing is a frequent source of infection; and sleeping with a person affected with secondary eruption has occasionally given the disease. It can be communicated from the father alone directly to the offspring, or indirectly through the mother; also directly from the mother without the father; also from a syphilitic nipple to a nursling, and from a syphilitic nursling's mouth to the nurse; but it is not clear that the milk of a syphilitic woman is ever virulent. The accoucheur and midwife have frequently received infection during examination of women in labour. He believes syphilis is frequently communicated by means of vaccination, but only when blood has been taken with the lymph. The blood of a syphilitic person is contagious. "The poison circulates with the blood, and rather in the blood-corpuscle than in the serum."

Although Dr. Drysdale has been so comprehensive and complete in describing constitutional syphilis, this is not the main purpose of his book. The treatment forms the great object he has had in view—the advocacy of the non-mercurial treatment; in fact, the treatment by *Iodide of Potassium*; to this end tend all his evidence and arguments, though he confesses that "he is fully conscious of the

amount of serious conviction concerning the utility of *Mercury* in the minds of some of the ablest practitioners of the day."

The natural history of syphilis—including its primary, secondary, and tertiary forms—is so well known, and its course, progress, and duration under all kinds of management, under no treatment at all, under mere hygiene, under local drug treatment, simple and specific, and under constitutional drug treatment, depurative, tonic, and specific, so well understood, that we are quite in a position to decide, with some degree of certainty, on the most appropriate management and drug treatment of this truly formidable disease. Its proper management and treatment now therefore depend more upon the information and judgment of practitioners than upon the want, uncertainty, or impotence of the means at command. Dr. Drysdale appears to admit this, for he nowhere complains of the want of means; although, from his very limited armamentarium, we would be led to infer that there are very few drugs useful in this disease. He appears to be thoroughly acquainted with all the modes of treatment proposed and adopted in the old school of practice, and to have rejected them all in favour of the use of *Iodide of Potassium*. He says, "the author himself has for many years treated all cases of syphilis he has met with by *Iodide of Potassium* combined with *Tincture of Iodine*." He would appear to be in possession of nearly all the knowledge necessary for the formation of a just and wise opinion and decision—all except that furnished by the specific school of medicine, where alone it might be expected to be found. He has also apparently every wish to arrive at a just and wise conclusion; and we have no doubt from his evident candour and fearless honesty that had he been in possession of the information afforded by the homœopathic school he would have done so, and would also have publicly announced the source of it.

He begins his observations on the treatment of syphilis by announcing it as a canon that syphilis is not one of the diseases that it is wise or safe to leave to the unaided

powers of nature, or to the influence of simple hygiene. "The course of syphilis," he says, "is greatly influenced by certain drugs; and although in many other diseases a great number of physicians have become more or less votaries of what is styled *expectation*, it has been found that syphilis is a notable exception to the wholesome rule, which enjoins us to 'keep up the strength whilst repairs are going on.' " He thus places syphilis amongst those diseases that imperatively call for drug treatment. And the kind of drug treatment he thinks necessary is evidently the *specific*, for he devotes the whole of his arguments to a review of the comparative merits of the two great supposed specifics for this disease—*Mercury* and *Iodide of Potassium* (as if these were the only medicines having any reputation in the treatment of this disease), in order to show the superiority of the latter over the former. He says, "No persons of any clinical experience in the treatment of syphilis doubt for a moment the value of *Iodide of Potassium* in the treatment of tertiary ulcerations; but there is quite a chaos of opinion upon the question of whether *Mercury* is useful in such cases, or in what doses it should be administered; or, indeed, whether *Mercury* does not do on the whole more harm than good to syphilitic patients."

His remarks here apply to "*tertiary* ulcerations," but the difficulty as to the use of *Mercury* is not as to *tertiary* but as to secondary and primary syphilis.

With the object of settling this question in favour of *Iodide of Potassium*, Dr. Drysdale then proceeds to show, by quotations from some of the ablest syphilographers of this and other countries, that in some cases the cure of syphilis can be accomplished without any medicine at all; not only the primary indurated chancre but also most of the secondary and tertiary manifestations. He shows that "syphilis (chiefly primary venereal ulcers) was treated in Portugal by simple hygiene and low diet." . . . That it is curable for the most part by topical treatment alone, or wearing itself out, when received into the constitution, after running a certain course (not always a destructive one)." . . . "That the disease may terminate by a

natural crisis, and is susceptible of a natural cure." . . .
 "That the British army now contains thousands with perfect health, and has contained thousands more who have been perfectly cured of every stage of syphilitic disorder without having taken a particle of *Mercury*." . . .
 "That chancres and buboes have disappeared under the antiphlogistic regimen, rest in the horizontal position, and mild local applications, as speedily as I (Ferguson) have ever seen them disappear in similar cases where *Mercury* was employed." . . . "And M. Cullerier, the first surgeon in the venereal hospital in Paris, demonstrates the possibility that every kind of ulcer is curable by common means." . . . "That these sores, and also the species which Mr. John Hunter has designated the true syphilitic sore, heal without the employment of any other means than rest, abstinence, and cleanliness, &c., is perfectly demonstrated." . . . That "in most cases simple regimen and local treatment suffice." . . . "That secondary symptoms have seldom followed the cure of these ulcers." . . .
 "And that secondary symptoms have been quickly cured without *Mercury*." . . . "That usually if syphilis be left alone it comes to an end with roseolar eruption." . . .
 "That we have reason to believe that children have recovered from the disease, not merely without *Mercury*, but spontaneously and without any remedy whatever." . . .
 "That at the Val-de-Grâce Hospital when *Mercury* was employed the mean duration of the treatment was two months, but it is now (without *Mercury*) twenty-six days."

Dr. Drysdale refers to Dr. Carmichael's supposed cures of syphilitic iritis with *Turpentine*, but we may ask if these should not be classed along with the above, and looked upon as having recovered independently of treatment?

In thus showing that syphilis, in almost all its manifestations, can be recovered from perfectly without any drug treatment at all, the author of course *ipso facto* proves, what most of us are fully aware of, that *Mercury* is not positively requisite for its cure in all cases. But this cuts both ways, for it proves also that neither is *Iodide of Potassium* necessary. But our author goes further than

this, and brings evidence to prove, what is but too well known, that even when *Mercury* has been used in appropriate cases it has not always, nor generally, fulfilled the expectations of its old school advocates; that is, when used in the treatment of the primary lesions it has not always prevented the supervention of the secondary; and when used in the treatment of the secondary symptoms it does not always cure them or prevent the supervention of the tertiary. And still further, he goes on to show, what is also perfectly well known, that even in appropriate cases the exhibition of *Mercury* has frequently not only not cured the disease, but has absolutely aggravated it; and not only so, but that frequently, in the old school practice, it has gone beyond the disease and produced its own peculiar morbid state, in addition; thus, in many cases, hastening the death of the patient instead of curing the disease. All this we, as physicians practising homœopathy, are of course fully prepared to admit, and indeed to claim as evidence long ago furnished by Hahnemann and other of our own writers.

In support of the charges Dr. Drysdale brings against *Mercury* he says:—"Dr. Strunz has seen many out-patients of the *Charité* Hospital, Berlin, treated with *Mercury* for weeks and months together without any advance being made towards the healing of the primary sores, or in many instances without any effect in arresting their destructive progress." That Dr. Fricke says:—"With regard to the certainty of cures, so far as the mercurial treatment is concerned, we must say, with many of our unprejudiced colleagues, that we are convinced, by bitter experience, that syphilis very often returned in the secondary form after the most cautious use of *Mercury*, the most careful selection of the preparation, the strictest attention to diet, and all proper precautions. Of 573 patients one third were attacked with secondary symptoms, all of them having been treated with *Mercury* for the primaries." "Both modes of treatment were followed at the *Charité* Hospital," says Dr. Strunz, "and it was found that, under similar management of the local affections, the patients who were treated with

Mercury could not be discharged for one, two, three, or four weeks after those treated without it." That Dr. Oppenheim, of Hamburg, says:—"When *Mercury* was used almost double the time was needed for the cure." That Mr. Pearson says:—"When *Mercury* is under the direction of an unskilled man the complaint will generally be exasperated by it, and rendered more intractable than if no *Mercury* had been given." That Dr. Fricke says again:—"In cases where *Mercury* had been taken brown spots, first light, afterwards darker, appeared on the back. Large purple spots also situated on the extremities and shoulders, raised above the surrounding skin, partly raw, partly covered with crusts, frequently turning into deep ulcers, were seen." Dr. Diday, of Lyons, says:—"I have seen syphilis, though healed methodically by specifics, last for a long time, give rise to after-affections of the skin, to iritis, disease of the testicles, and then to the so-called tertiary affections, relapse under this form almost indefinitely." Dr. Spencer Wells says that report shows, "not only that *Mercury* is no preservative from secondary symptoms, but that the frequency and severity of the secondary symptoms are increased in direct proportion to the quantity of *Mercury*, and that many of the more formidable varieties of tertiary disease are caused not by syphilis but by *Mercury*." That Desruelles concludes by saying:—"Thus it appears evident that *Mercury* should no longer be considered a specific indispensable for venereal disease." For himself, Dr. Drysdale says:—"The author has such an unconquerable aversion to the use of *Mercury* internally, from old observation of the evil effects of it in syphilis and other diseases, that he has never used it in any case of syphilis for many years." "*Mercury* is," he says, "rather too dangerous a remedy to be used with safety in most cases of syphilis." We feel inclined to ask here:—"Supposing that some of the cases of syphilis treated by Dr. Drysdale were such as really do require *Mercury*, how will he satisfy his conscience, or acquit himself of having failed in his duty? He appears to believe that because *Mercury* has been found to be unnecessary in the treatment of simple inflammations,

such as pneumonia, bronchitis, pleurisy, pericarditis, &c., that therefore it must be unnecessary in the treatment of syphilis! There can be no "therefore" about this matter, for the cases are not at all analogous. The same objection would be applicable to *Iodide of Potassium*.

Having thus, as he thinks, disposed of the claim of *Mercury* to rank as a specific for syphilis, Dr. Drysdale proceeds to advocate the claims of *Iodine*, in the form of *Iodide of Potassium*, to occupy the place from which he has endeavoured to depose *Mercury*. "Wallace of Dublin," he says, "had the merit of first employing *Iodide of Potassium*, of fixing its doses, and pointing out the indications for it, whereby he definitely introduced *Iodine* into the therapeutics of syphilis, and placed it almost on a level with *Mercury*. He commenced in 1832 and gave the results in the *Lancet* of March 1836; 139 patients were observed." He quotes M. Ricord as saying:—"Thus I may say that *Iodide of Potassium*, at first advised as a general medicine for syphilis, and which gave such uncertain therapeutic results, has been definitely, by my clinical studies, reserved for that series of accidents named tertiaries, *on which the action is all powerful*." Speaking of syphilisation Dr. Drysdale himself says:—"The author is not of opinion, from his own experience, that syphilisation is likely in future often to be used in syphilis. *Iodide of Potassium* is so useful in severe cases, and other cases do well of themselves, that there seems but little room for Boeck's plan." He quotes Dolbeau as saying:—"When I count the numerous observations of non-treated syphilis which daily present themselves at the latter period of their evolution, I would speak of those tertiary accidents which we cure so easily with *Iodide of Potassium*." Mr. Jonathan Hutchinson says:—" *Iodide of Potassium* is more efficient than *Mercury* in the tertiary period, but it does not prevent relapses." Mr. Holmes Coote "thinks *Iodide of Potassium* valuable in tertiary syphilis." "*Mercury* did not cure tertiary symptoms, but *Iodide of Potassium* checked them for a time." —Dr. P. H. Watson. "*Iodide of Potassium* is useless in primary syphilis, and of little use in the early scaly

eruption ; for periosteal pains and ulcers of the integuments, it will almost certainly cure them more quickly than *Mercury*, but relapses will appear."—Sir James Paget. Sir W. Lawrence says, "he has great faith in *Iodide of Potassium* in tertiary symptoms." Mr. Erichsen says, "*Iodide of Potassium* is very beneficial in osteal and periosteal swellings and pains." "Mr. Berkeley Hill expresses himself in favour of *Mercury*, in the form of blue pill in indurated sores and secondary symptoms, and uses large doses of *Iodide of Potassium* in ozæna and tertiary cases." Mr. Henry Lee says, "*Iodide of Potassium* has a considerable power in removing syphilitic eruptions and other forms of secondary and tertiary syphilis ; but it does not cure the disease." Dr. Morell Mackenzie says, "Gummata of the tongue, pharynx, and larynx, should be treated with *Iodide of Potassium* in combination with *Ammonia*." Dr. Bidentkap says, "In the tertiary period *Iodine* will often make the symptoms vanish after a short time, and give a certain feeling of health to the patient. Relapses will occur, and may again be banished by *Iodine*, which will be as necessary to the patient as his daily food." Dr. Kraus says that "*Iodide of Potassium* is of quite remarkable service in syphilitic periostitis, in granular knotty infiltration of the skin and mucous membranes, in cases of lupoid serpiginous ulcers, and in visceral syphilis ; as also in hereditary syphilis in adults." He, however, says also that, "in some cases of tertiary ulcers, inunction will produce a cure when *Iodide of Potassium* has failed." Dr. Alfred Fournier says, "For the later periods *Iodide of Potassium* is the remedy. . . . In fact, the great remedy, the remedy *par excellence*, in gummy syphilides in general, and that of the mouth in particular, is *Iodide of Potassium*." Dr. Drysdale himself says, "The author of this work has for many years past been in the habit of treating all cases of syphilitic infants by means of *Iodide of Potassium*. . . . and has often been pleased with the rapid manner in which the eruptions have disappeared, and iritis been resolved." And, speaking of ozæna he says, "Topical remedies are, the author thinks, not of much avail when the disease is deep-

seated, but the *Iodide of Potassium* is in this case a perfectly wonderful specific."

We have been thus copious in our abstracts in order to give the whole of the evidence on the authority of which Dr. Drysdale bases his denunciation of *Mercury*, and his advocacy, in its place, of *Iodide of Potassium* in the treatment of syphilis. And we hope that Dr. Drysdale will himself see how very weak and insufficient his evidence and arguments are—at least, as regards primary and secondary syphilis; and how strong the claims of mercury still remain, notwithstanding all he has brought forward to the contrary. And we hope he will, like his friends, Mr. Rose and Dr. Thomson, "return to the use of *Mercury* in small doses in true syphilis."

To prove the weakness of Dr. Drysdale's case we scarcely need do more than appeal to the authorities he himself has quoted, or indeed than make use of his own quotations.

Of course, it is unnecessary for us to assert that we deprecate quite as much as he possibly can do the production of salivation for any purpose whatever, and the exhibition of *Mercury* or any other drug in such doses as to run any risk whatever of producing evil results. We hold that it is quite possible, indeed, a very easy matter, to take advantage of the curative powers of *Mercury* without in the least inducing its poisonous effects; just as easy as it is with any other drug; and that it is not at all necessary to induce the poisonous to obtain the curative powers. Even M. Ricord, in his last declaration on this subject given before the British Medical Association, 1872 (*Lancet*, 17th August), after stating that *Mercury* is the specific for syphilis, and will cure it in most cases, said, "It would cure without salivation—indeed, salivation must be avoided as much as possible." All drugs can be made to produce evil effects; and it would, therefore, be quite as wise to reject all drug-treatment as to refuse to make use of any one particular drug because it can be so used as to produce evil effects. But we are not justified in neglecting to use any drug that is capable of being so used as to benefit our patients; and much less so any drug that has been proved to be capable of

curing or even shortening the term of that frightful scourge of our race—syphilis. If, therefore, it can be shown that *Mercury*, properly administered, can help, even ever so little, the cure of syphilis, it is our bounden duty to use it, and so to use it as to do good and no harm. Now we are ourselves so thoroughly convinced of the absolute power of *Mercury* over syphilis, not only from knowing the reason why it should, but also from personal observation and practical experience, that we never think of attempting the cure of real Hunterian chancre without employing it in some form or other some time in the course of the treatment; and very usually we find ourselves obliged to use it in the treatment of most of the secondary lesions, and occasionally in the treatment of many of the tertiary. We believe, with Mr. John Hunter, that “if there be such a thing as a specific, *Mercury* is one for the venereal disease, in two of its forms.” With *Mercury* at our command we confidently undertake the treatment of many cases of chronic syphilis before which we would otherwise recoil in despair.

In support of the curative power of *Mercury* in this disease, we might here quote almost all the authorities appealed to by the author as giving evidence against it, for the evidence they give is against the abuse of it, not against the use. They disapprove of it, not because it does not frequently assist to cure, but because, as generally used, it often aggravates the disease itself, and not unfrequently induces its own disease in addition; and some of them object to Dr. Drysdale's representing them as anti-mercurialists, as he himself shows in the case of Drs. Bumstead and Diday. Dr. Bumstead says: “Whilst, therefore, I believe in the spontaneous cure of syphilis, I cannot subscribe to the invectives against *Mercury* made by Dr. Drysdale and others when judiciously administered. Even Diday protests against Dr. Drysdale's anti-mercurial exaggerations, and against his statement that we agree with him.” Nearly every author that he quotes as speaking in favour of *Iodide of Potassium* in tertiary syphilis speaks quite as strongly, if not more so, in favour of *Mercury* in the treatment of the primary and secondary lesions. Even Mr.

Rose and Dr. Thomson, who wrote so strongly against it at one time, "in after years returned to the use of *Mercury* in small doses in true syphilis." Mr. Spencer Wells says *Mercury* "hastens the healing of the indurated sore or true Hunterian chancre. . . . The true use of *Mercury* is in small quantities, in the treatment of the primary indurated sore, and in some forms of secondary disease." Mr. Holmes Coote says: "The use of *Mercury* is to enable the surgeon to expedite the healing of indurated chancre." "Sir James Paget thought *Mercury* a specific in syphilis; it will shorten its duration and sometimes prevent secondary symptoms. . . . *Iodide of Potassium* is useless in primary syphilis and of little use in the early scaly eruption." "Mr. Erichsen gives *Mercury* for all primary sores except the phagedænic;" and he says, "Looking, therefore, upon *Mercury* as the only remedy we possess that influences directly and permanently the venereal poison, I think it should always be administered in full course during some period of the treatment of constitutional syphilis." "Sir W. Jenner said he treated all syphilitic children with *Mercury*, and a large proportion thus treated got well." "Mr. Berkeley Hill expresses himself in favour of *Mercury* in the form of blue pill in indurated sores and secondary symptoms." Mr. Henry Lee says: "In practice it may be convenient to give *Mercury* internally." Mr. Acton says: "I presume there are few persons in the present day who dare treat indurated chancre with local treatment only. It is my deliberate opinion that *Mercury* is absolutely necessary for the general treatment of indurated chancre. Authors almost without exception agree as to the necessity of *Mercury* in the treatment of indurated chancres; either for the treatment of the local affection or for the prevention of secondary symptoms." Dr. Steiner says: "Of all known remedies *Mercury* is the one which makes the syphilitic eruption disappear the most rapidly." "M. Vernueil expresses himself in favour of *Mercury* in syphilis, where there is iritis, periostitis, alopecia, or persistent headache. He believed in the preventive efficacy of *Mercury* in tertiary accidents, saying

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that the majority of patients with tertiary accidents had not had enough of *Mercury*." In his address before referred to M. Ricord said: "As soon as I have ascertained that there is a hardened chancre, with a swelling of the glands, I immediately institute the mercurial treatment." Even of Dr. Wallace Dr. Drysdale only says, "He placed *Iodine* almost on a level with *Mercury*."

Such evidence as the above—and much more could be given—is surely sufficient to convince every unprejudiced practitioner of the absolute curative power, of *Mercury* in syphilis, in fact of its *specific* power; that it is really a remedy of very great value in the treatment of this disease. Surely such witnesses could not have been altogether deceived! They must have seen *curative* results in some, if not in many, cases; or they would not thus have expressed themselves. We grant that they may have had their misgivings, and have been convinced that in some cases it was not really curative, that in some it aggravated the disease, and that in others it induced its own disease; still, they are quite as satisfied that in some cases it was truly curative, absolutely necessary, and in fact was the only drug that appeared to have any marked control over the disease. The testimony in favour of the use of *Mercury* in indurated or true Hunterian chancre and the early symptoms of constitutional syphilis is so strong and reliable that it is quite sufficient to put this matter beyond dispute; it is scarcely less so in respect of most of the secondary lesions; and it is also sufficient to show that it is frequently of good service even in many of the tertiary lesions; in fact, that it is a remedy we are not justified in neglecting to use in the treatment of this disease; and particularly in the face of the fact that its most bitter opponents have no well-supported substitute to offer in the case of primary and secondary lesions. Even Dr. Drysdale himself offers only *Iodide of Potassium*, and that not for chancre; he would appear to leave it to simple hygiene; even according to his own showing *Iodide of Potassium* is advocated principally in tertiary conditions; that is, in the latter part of the constitutional struggle with the poison.

Here, certainly, it is of service ; it does help to clear away these last dregs of syphilis. He quotes Sir James Paget as saying, "*Iodide of Potassium* is useless in primary syphilis, and of little use in the early scaly eruption ; for the periosteal pains and ulcers of the integuments it will most certainly cure them more quickly than *Mercury*." M. Ricord as saying, "I may say *Iodide of Potassium* has been definitely reserved for that series of accidents named tertiaries, on which the action is all-powerful." And Mr. Henry Lee as saying, "*Iodide of Potassium* has a considerable power in removing scaly eruption and other forms of secondary and tertiary syphilis, but it does not cure the disease." We need not quote all his other authorities on this point ; it is sufficient to say that it is just the same kind of testimony that is borne by his quotations from Dolbeau, Hutchinson, P. H. Watson, Sir W. Lawrence, Dr. Erichsen, Mr. Berkeley Hill, Sir W. Jenner, Drs. Mackenzie, Bidentkap, Kraus, and Wallace ; these all assert that its proper place is in the treatment of tertiary symptoms, and some only of the secondary.

We think we have, by the above evidence, shown even from Dr. Drysdale's own authorities and himself that *Iodide of Potassium* is no remedy for the early ravages of syphilis, but that *Mercury* really is so. And we hope the evidence is sufficiently convincing to induce Dr. Drysdale himself to "return to the use of *Mercury* in small doses," and treat chancre with it instead of leaving the constitution to struggle on unaided with its deadly foe until the struggle is evidenced in the skin, mucous membrane, glands, and bones, which by using only *Iodide of Potassium* he certainly does. "I have ascertained," says M. Ricord (*Lancet*, August 17th, 1872), "that if treatment were soon begun and well carried through the bursting out of the first secondary symptoms, as roseola, with swelling of the glands of the neck, might be prevented. . . . If this is not frequently the case it is because the treatment is resorted to too late, when the disease has had time to take root, and the secondary symptoms are about to show themselves.

. . . . As soon as I have ascertained that there is hard-

ened chancre I immediately institute the mercurial treatment." From Dr. Drysdale's belief that syphilis is one long act, beginning with indurated chancre and running through the ravages of secondary and tertiary symptoms, in some cases to death, in others to life-long suffering; and that it is a notable exception to the advantage of expectation, being greatly influenced by certain drugs; we would have thought he would have been very anxious to begin the treatment early with a real specific. And doubtless he would if he knew one, or if he had confidence that he could with safety use the one believed in by others; perhaps, indeed, believed in, but dreaded, by himself. Should we be far wrong were we to assume that Dr. Drysdale does believe that *Mercury* really is curative in the early stages of syphilis; and that the real reason why he refuses to use it is that he thinks it "too dangerous a remedy;" and that he would use it were he convinced he could do so with safety to his patients? We hope not. And as to the safety of its use we do assure him most positively that he can use it not only with safety but with much greater success than any other single remedy. Why, indeed, should *Mercury* be an exception to the rule that "poisons in small doses are medicines?" All medicines in excessive doses are poisons; it is altogether a matter of dose. Now, what is the quantity of *Mercury* that ranks it amongst the poisons? Evidently that quantity which, whether given at once or in divided doses, will induce morbid symptoms. And what is the quantity that entitles it to rank as a medicine? Evidently that quantity which whether given at once or in divided doses will remove morbid symptoms without inducing any. And what quantity administered to a healthy adult (free from idiosyncrasy) will, as a rule, induce morbid symptoms? According to Neligan, of *Hydrargyrum cum Creta* grs. x—xxx (that is, about grs. ij—x of the *Oxide of Mercury*) night and morning will act as an alterative; that is, produce morbid symptoms; and according to Pereira, of blue pill grs. v (that is, about grs. ijss of *Oxide of Mercury*) night and morning will produce salivation. "By administering

Calomel," says Neligan, "in grain doses every hour, salivation may be produced in from twelve to twenty-four hours." Five grains of blue pill, then, or one grain of *Calomel* frequently repeated, will, as a rule, excite the morbid or physiological action of *Mercury*; this is the poisonous dose. The medicinal or curative dose must then, of course, be less than this. How much less must be dictated by experience. The rule proposed by homœopathy is, that "the curative dose lies near to the limits of the physiological action;" but "one not sufficient to excite the physiological action" (*British Journal of Homœopathy*, vol. xxix, p. 570; and *Monthly Homœopathic Review*, vol. xv, pp. 463, 666). What could be more in accordance with common sense? We advise Dr. Drysdale, then, to try *Mercury* in doses of one grain of blue pill, or one tenth of a grain of *Calomel*, or of Hahnemann's black oxide, three or four or five times a day; less or more, and less or more frequently according to the susceptibility of the patient; and to continue such treatment for some time; and we assure him he will have every reason to be satisfied with the results, the medicine and the dose. Dr. Yeldham gives two or three grains of the first or second decimal trituration ($\frac{1}{5}$, $\frac{1}{50}$ of a grain) of Hahnemann's black oxide three times a day; and adds, "I have during the last sixteen years treated more cases of syphilis in all its forms homœopathically, and have made better cures, than I did during the previous fourteen years of my allopathic practice" (*Venereal Diseases*, pp. 63, 67). By using *Mercury* in such cases as these Dr. Drysdale will find it rapidly curative, and neither a "dangerous" nor a "devilish remedy."

Now, why is *Mercury* specific for syphilis? Because (as Dr. Drysdale himself shows, p. 76, &c.) it acts on the same parts in somewhat the same way as the syphilitic poison. Why then, it may be asked, does it not cure all cases, all stages, and all manifestations of this disease? Because in some constitutions, and at some periods of its action, the syphilitic poison acts either on parts, or in ways, that *Mercury* does not; or it is improperly used, or not

continued long enough. "Scrofula, skin disease, scurvy, low constitution, poorness of blood; such complications as these," says M. Ricord, "alter the case. . . . And if there is already some syphilitic diathesis the symptoms will not follow their usual evolution. . . . Specific causes do not always act specifically. . . . And specific remedies do not always act specifically. . . . As long as there are secondary symptoms well-marked *Mercury* must be given; when there is a mixture of secondary and tertiary symptoms *Mercury* and *Iodide of Potassium*; for tertiary, *Iodide*. . . . With some patients *Iodide of Potassium* will not advance them in any way. Why? Because there was frequently in the constitution, in the blood, something of the second stage, something that required mercurial treatment."—*Lancet*; already referred to. To eradicate the dregs of a disease like chronic syphilis the use of the specific medicine must be continued for a long time; because the bodily structures have become altered and saturated by the poison, and each cell keeps reproducing progeny diseased like itself, either for the lifetime of the individual or until by the *vis medicatrix nature*, either alone or assisted by a specific medicine, the cell action is so changed as to generate healthy progeny. But even after that the old morbid material of the broken-up old cells must be thrown off by the excretory and secretory organs; especially the skin, the mucous membrane, and glands; in its passage keeping up symptoms in them as well as reinfecting the system; for a length of time proportionate to the saturation of the body; this is one cause of the external evidences of the disease continuing even during the exhibition of the true specific, and whilst the cure is really going on; and it is a reason why the specific should be early introduced into the system, and persevered with in small doses for a long time, rather than be rapidly introduced and soon relinquished. Hence also the benefit and the apparently rapidly effects of vapours, fumigations, baths, and inunctions. "If we wish for a perfect cure," says M. Ricord, "the treatment must be continued. In general it was not persisted in long enough; it was dropped as soon

as the symptoms disappeared, or a short time after, and then it was not astonishing to see them reappear.”—*Lancet*, loc. cit.

In explaining why *Oxide of Mercury* does not cure syphilis in all cases, and in all its stages and manifestations, we have incidentally given a reason why there should be and are other specifics for syphilis,—because other medicines act on the other parts and in the other ways similar to the syphilitic virus; and, in treatment, they take up the trail where the *Oxide of Mercury* left off; hence the special curative power of the different preparations of *Mercury*, *Iodine*, &c., *Iodide of Potassium*, *Iodide of Arsenic*, *Iodide of Sulphur*, *Bromide of Potassium*, *Bichromate of Potash*, *Sarsaparilla*, *Guaiacum*, *Mezereum*, *Aurum*, *Nitric Acid*, *Phosphorus*, &c.; each comes in to do its own work, like the different workmen in the restoration of a ruined city. Why, then, does Dr. Drysdale “wonder why Mr. Berkeley Hill, being so well aware of the virtues of *Iodine* in tertiary cases, should still remain so persuaded of the value of *Mercury* in early syphilis?” *Iodide of Potassium* being truly specific for tertiary symptoms is really a reason why it should not be so for the primary and early secondary. Even M. Ricord shows that when syphilis attacks different parts, produces different effects or symptoms, it requires different specifics. He says, “*Mercury* for the primary and secondary, and *Iodide of Potassium* for the tertiary;” and he calls *Bromide of Potassium* “a splendid remedy in the complications of syphilis. In some cases of symptoms referable to the nervous centres *Bromide of Potassium* was an adjunct, and came to the help of *Mercury* or the treatment by *Iodine*. In some cases of brain disease with syphilis, and of disease of the spine, or epilepsy, *Bromide of Potassium* did wonders.”—*Lancet*, loc. cit. Here again comes in the advantage of homœopathy; and the advantage of being led to the medicine by the symptoms manifested by the patient. The resources of the physician practising homœopathically are never at an end, even in this truly protean disease, so long as he knows a drug that will produce a symptom similar to the one complained of by the

patient; with him it is not—"If small doses of *Mercury* or *Iodide of Potassium* do not cure give large ones; make the medicine either cure the disease or kill the patient." No, if one medicine does not cure the disease, or finish out the cure completely, he selects another and another, according to what of the disease is left; applying each time a stimulus that has been proved to be capable of restoring healthy action to the particular cells still remaining out of health; as it were, wearing out the disease bit by bit, until the system is as free as before it was infected. How different with the ordinary physician! He, having accidentally fallen on a specific for the general type or main features of the disease, gives it in all cases, in all stages, and all varieties; and if it does not cure the particular variety or stage in hand, or remove the whole of the morbid state present, in moderate doses, he gives it in large and larger ones, until, inducing its own poisonous effects, the patient runs the risk of being killed by the medicine although his disease be left uncured. "Grs. 15, 30, 60, 75, or 120 of *Iodide of Potassium* daily," says Dr. Drysdale; and he has given it for nine months at a time. "Grs. 40, 60, 80, or 100 of *Iodide of Potassium* per day," says M. Ricord! Is this not doing with *Iodide of Potassium* what has been already done with *Mercury*, and has caused Dr. Drysdale's strong opposition to this medicine? If *Iodide of Potassium* has not committed such havoc in the body as *Mercury* has, this is evidently not because of the prudence of its advocates, but from the ease with which the body can throw it out again; as M. Ricord says, "It is a remedy that passes through the body with great rapidity. I have had great experience with it, and have found that in half an hour it had passed away in the urine."—*Lancet*, loc. cit. *Iodide of Potassium* is, nevertheless, a dangerous remedy to give in excess, as is proved by the morbid effects it is capable of producing—deranged nutrition, glandular disease (of the testicles, mammæ, mesentery, &c.) iodism, salivation, ulceration—symptoms, in fact, already resembling those of *Mercury*, and very analogous to those of tertiary syphilis; hence, indeed, its curative power over this disease.

It is to the indiscriminate use of specifics—to their being used in all cases, all stages and varieties of the otherwise appropriate disease—that are to be attributed the immense amount of damage they do, and their frequent failure and ultimate rejection. To this must be attributed the present chaotic state of the question of *Mercury* in the treatment of syphilis, and the damage it has done; and this will be the cause of the fall of *Iodide of Potassium* if the unwise zeal of its advocates will not allow it to settle into its proper sphere—the treatment of *tertiary* syphilis, and similar morbid states. *Mercury* is certainly answerable for much damage from this indiscriminate use and pushing beyond its sphere; and so will *Iodide of Potassium* be (for it too has poisonous power) should its advocates unwisely push its use, trying to make up in dose for the want of appropriateness. Dr. Thomson and Mr. Rose at one time (as Dr. Drysdale shows) used *Mercury* in *all* cases of syphilis and in all stages, and then they discarded it altogether and would not use it in any; but, as might have been expected of observant men, they were afterwards driven to use it in *some* cases. Will it ever be so with Dr. Drysdale and *Iodide of Potassium*?

Our author gives a very good review of the doctrines of unicity and duality. He says: "Theoretically one may be a unicist, but in practice we give our prognosis as dualists." And, although believing it is the indurated chancre only that is the infecting sore, he does not deny that constitutional symptoms have followed chancre that was apparently soft; but he explains this (as the occurrence of syphilitic symptoms after gonorrhœa is explained) by supposing that the chancre was not really or only soft, but was partly indurated, that is, of the "mixed" variety; or that it was a result of the virus of true syphilis acting in an already syphilitically modified constitution, and was therefore "chancroid," as variola in a vaccinated person is varioloid. Purely soft chancre, he says, is strictly a local disease, and requires topical treatment only. This may be quite true; but how are we to know when the ulcer is absolutely free from the syphilitic poison? Shall we wait until the whole body is infected, and secondary symptoms have shown themselves? Here

again homœopathy has an immense advantage, for we can dare to begin the treatment at once.

To test any chronic disease whether it is syphilitic or not, Dr. Drysdale puts the patient under a course of *Iodide of Potassium*, and if it cures it he says it was syphilitic. Now, *Iodide of Potassium* may cure a chronic disease, but we think that does not necessarily prove it was syphilitic; for *Iodide of Potassium* will cure other diseases besides those of syphilitic origin.

He makes some very interesting remarks on syphilisation, which are well worth reading. He thinks it is a painful and disfiguring operation; and he quotes evidence in support of the opinion that it acts simply as a counter-irritant; showing that similar results follow the use of *Tartar emetic ointment*.

There are some special and instructive observations on the treatment of syphilis of the rectum.

He disapproves of the hypodermic injection of the specific medicines in syphilis.

We have now come very nearly to the end of this very interesting and important contribution to the literature of syphilis; and as we have already extended these remarks to too great a length we shall say very little more. We must, however, add that we agree with the opinion that syphilis is one long act analogous to the eruptive fevers; but we look upon the primary chancre as being as truly syphilis as are the later manifestations. We also believe that soft chancre is a modified syphilis—chancroid corresponding to varioloid; and that there are ulcers that are truly local and non-infecting; but we advise tentative treatment in all suspicious ulcers on the genitals. We have ourselves seen cases of syphilis of many—at least twenty—years' standing; also cases of infection by secondary syphilis, and indeed by tertiary; and some apparently by the natural secretions—semen, saliva, &c.—cases where the disease has been communicated in a severe form to a wife after all symptoms had disappeared from the husband for years, and nothing morbid could be discovered in his condition. We also believe that it may be communicated by vaccination, though, perhaps, in this case it is not by the lymph but by the blood taken with it. We also

believe that syphilis is a disease that *can* be thrown off by the unaided powers of nature, in some few cases : in some cases if left to itself it will run on from bad to worse and destroy organ after organ and tissue after tissue until life itself ceases. In all cases, and at all stages, proper specific treatment will materially assist nature to throw out the poison, and we are quite convinced of the necessity of early internal treatment in all cases, even doubtful ones, so as to prevent the introduction of the poison into the tissues ; and we look on the common practice of healing up the chancre by caustics as one of very doubtful utility, and though the impatience of the patient may sometimes induce the doctor to do this, it is very likely to be followed by the outbreak of secondaries. On the whole, it is safer to trust to scrupulous cleanliness and internal treatment alone for the cure of the chancre.

There is so much other interesting and instructive matter in this essay that we recommend all our readers to peruse it for themselves.

A Medical Handbook for Mothers ; or, Hints for the Management of Health and the Treatment of the Disorders common during Pregnancy and Infancy. By A. C. POPE. London : Turner.

It was with much anticipated satisfaction that we saw the announcement of this work, knowing that it was needed, and assured that the author would do it well. We have not been disappointed. We have in it clear and forcible directions by which the young mother can regulate her own and her infant's health, and can rectify the ordinary disorders of the same by homœopathic treatment. No better "guide, philosopher, and friend" could be devised for the whole period of pregnancy and lactation ; and we counsel our colleagues to recommend all their patients whom it may concern to obtain it forthwith.

We make a few notes on points which have struck us in the course of perusal.

1st. Is it quite correct to say that bread contains but

"a very nominal amount" of nitrogen? It has half as much again as human milk.

2nd. The forty weeks of normal gestation are said to be reckoned from the day when the last monthly period *ceased*. But the theory is that parturition is just a menstruation of a peculiar character, and therefore coincides with a "period," being the tenth since impregnation has taken place. It should accordingly occur forty weeks after the beginning of the last flow, and not its ending. We think, moreover, that this is the fact in the great number of cases.

3rd. We quite approve of Mr. Pope's departure from the routine of third dilutions hitherto recommended in domestic manuals, and his frank recommendation of mother tinctures where he has found them advantageous. But we think he must somewhat modify his comparison between homœopathy and the old practice, on the score of the "bitter, sour, or otherwise unpalatable draught" of the latter. The three-drop doses of the 1st dec. dil. of *Bryonia*, which (p. 67) he advises for constipation, will hardly be relished as regards tastefulness; and the same dose of *Chamomilla* ϕ (p. 65) is not much pleasanter. We think, moreover, that a little explanation should be given as regards the dilutions recommended, *i. e.* why the harmless *Coffea* (p. 77) and *Agnus castus* (p. 123) should be given in the 3rd dilution, while the potent *Aconite* and *Nuxvomica* are given in the 1st.

4th. The dilutions appended to the list of medicines given at the end do not always correspond with those recommended in the body of the work. *E. g.* *Agnus castus*, which in the former is to be in the 2nd, in the latter (p. 123) is to be given in the 3rd. *Bryonia* has the 1st and the 1st dec. in the two; *Cina* the 3rd dec. and the 3rd; *Croton* the 2nd and the 3rd; *Iodine* the 1st, and the 1st dec.; *Merc. iod.* the 2nd and the 1st, and *Podophyllum* the 2nd and the 3rd dec. Patients who had fitted their medicine chests from the list given might be apt to complain when they found other preparations directed to be taken.

Morbus Brighti (sic). By JOSEPH BUCHNER, Doctor of Philosophy and Medicine, Munich. Translated by SAMUEL LILIENTHAL, M.D. Boericke and Tafel.

OF all the volumes it has been our lot to review the present has been the most difficult and annoying to read. We have more than once remonstrated with our American colleagues upon their careless writing; but Dr. Lilienthal out-herods Herod. Here are a few choice specimens of his style, culled from his first fifteen pages:—

"Buchner's *Morbus Brighti* is by far the best and exhausting monograph ever written on this subject."

"And *ergo* why in curative cases its beneficial effect must follow."

"We do not ask for rockets from our critics, but so much practical experience, that they have already treated the syphilitic form of morbus Brighti, and that they supply everything, which is liable to censure, by making it better, for which we will thank them with all our heart."

"They intend to go by their experience, which has and will render all medicine uncouth and trivial."

"We might put it down as an axiom, whatever acts paralysing on the blood-corpuscles, whatever renders them incapable to fix oxygen, may produce Bright's disease."

These are obviously the translator's own elegancies, and are not covered by the apology he offers in his preface:—"German authors write in so heavy and entangled periods, that it is frequently difficult to render it in good old English; and we ask the pardon of our readers for the shortcomings which after all are apt to creep in." He records his thanks "to Dr. Mary H. Everett for having aided us in the revision of the manuscript." Here is one of the "heavy and entangled periods" of the original, rendered in "good old English" by the joint labours of the translator and "Dr. Mary":—

"The more nitrogen, the less oxygen, as in croup the poisoning by carbon, in diphtheria both, therefore in severe cases Bright's disease." This is a lucid sentence; and

here is another, on the same page, admirable only for its brevity :—" *Thiersch's* metabolic matter."

Seriously, this is too bad. Messrs. Boericke and Tafel should not send forth such a volume from their press. Either they should employ a translator who knows English as well as German, or (if their own nationality disqualifies them for the task) they should find a more competent reviser of the manuscript than "Dr. Mary H. Everett." As it stands, the book is a discredit to them and to homœopathic literature.

We wish, moreover, that we could limit our dispraise to the form in which Dr. Buchner's treatise appears. We are compelled to bestow it also on the substance. The monograph is "exhausting" indeed, but it is not (as Dr. Lilienthal meant to call it) exhaustive. It is neither luminous nor instructive. It contains a number of facts about Bright's disease; but they are thrown together in a very heterogeneous manner, and narrated in a confused and elliptical style. The pathology shows a narrow range of view—the doctrine of English observers regarding the distinct forms of the disease being totally ignored. The inflammatory complications—pneumonia, pericarditis, &c.—have no distinct place given to them. And the sections on treatment—which should distinguish the treatises of our school of medicine—are not satisfactory. Less than a page is given to diet and hygiene. The remedies studied are presented with a great want of thoroughness in analysis and characterisation; and we cannot feel better armed for coping with the disease from reading the author's remarks upon them. Altogether, we are compelled to say that homœopathic literature has not gained, either by Dr. Buchner's composition, or by Dr. Lilienthal's introduction of it in an English dress.

Scrofulous Affections, and the Advantages of their Treatment according to the Principles and Experiences of Homœopathy; described and demonstrated by numerous Examples of Successful Cures. By Dr. H. GOULLON,

Dr. R. Ludlam's Lectures on the Diseases of Women. 569

of Weimar. Translated from the German by EMIL TIETZE, M.D. Boericke and Tafel.

Dr. GOULLON's name suffices to warrant the substance of this book ; and we can speak much more favourably than in the previous case of the work of the translator. There are a few slips which a competent " Dr. Mary " might have remedied ; but on the whole the style is transparent and readable, and does nothing to injure the force of the matter.

Dr. Goullon has given us a very valuable book. In view of the great prevalence of scrofula, it is most desirable that all which is known of its successful treatment should be brought together in one focus, and submitted to criticism and analysis. This the author has done. He first describes the " special forms of scrofula," giving the best treatment for each ; and then discusses the " most approved remedies against scrofula " *seriatim*, narrating the cases in which their efficacy has appeared. These are finally summed up in a *résumé*, which is likely to be very useful in practice.

Dr. Goullon's work is alike encouraging and helpful to us in our encounters with this dire disease.

Lectures, Clinical and Didactic, on the Diseases of Women.

By R. LUDLAM, M.D., Professor of Obstetrics and the Diseases of Women and Children in the Hahnemann Medical College of Chicago. Chicago : Halsey. Pp. 612.

THIS work has been for some time appearing, at irregular intervals, in numbers. Now, complete, it comes before us with every recommendation which the publisher's care can give, but above all with that of the writer's name.

Dr. Ludlam has long been known, from his contributions to periodicals and his Treatise on Diphtheria,* as an accomplished and practical physician, and a writer of good read-

* Reviewed in this Journal, vol. xxii, p. 466.

able English. The present volume will more than sustain his reputation, and must be reckoned a valuable contribution to homœopathic literature. It consists (the preface tells us) of the substance of the lectures delivered by him in the college and hospital in which he has served in the capacity of teacher for many years. These lectures are mainly "clinical," *i. e.* founded upon actual cases present or narrated, but partly "didactic," *i. e.* expository of special maladies, as ovaritis and hysteria. The cases presented are "selected because typical, and not because anomalous." In this way, and by occasional resort to the didactic form, nearly the whole field of gynæcology is covered by the thirty-four lectures, though no order of sequence is observed. And as pathology and (especially) diagnosis are dwelt upon as largely as therapeutics, the work becomes a complete text-book for the student and guide to the practitioner in the speciality of which it treats.

It is as a matter of course that we note Dr. Ludlam's full acquaintance with all that recent years have brought to light as to the nature and the local treatment of uterine disorders; but we come to his book with the especial interest of learning what place homœopathic therapeutics hold in this sphere, how much of the ordinary treatment they render unnecessary, and which of their means are found most efficacious. Dr. Ludlam's experience should enable him to test these questions, and his answers to them cannot but be of weight.

It is evident from his pages that the administration of medicines does not occupy the same place in his mind as in that of his brother professor, Dr. Guernsey.* The latter puts these first, and too often even alone, among his remedial measures; and devotes much space to their differential characteristics. Dr. Ludlam always begins his section on "Treatment" with general and local measures, and then comes to medicines. Of these, moreover, he sometimes contents himself with giving a list, leaving the special indications to be supplied from other sources. Nor does he often favour us with his own experience in the use

* See the review of his *Obstetrics, &c.*, in vol. xxvi, p. 113.

of drugs. In regard of this, his records of cases are somewhat peculiar. They come down only to the point at which they are first seen by the physician. The treatment prescribed is not invariably mentioned, and the result very seldom.

While this is so, however, it is no less evident that Dr. Ludlam's homœopathy enables him to dispense with all the harsher measures in vogue among the therapeutists of the old school. Caustic applications and astringent injections find little favour in his eyes. His local remedies, excluding those of mechanical character, rarely go beyond *Glycerine*, *Calendula*, and *Slippery Elm*; but he lays great stress on the general management of the patient, and is full of practical hints in this direction.

Our space will not permit us to give any lengthened review of this book, nor indeed should we have any criticism to offer. We must all be to a large extent learners from one of such wide experience in his special field, and so competent to make use of his opportunities. We can only thank Dr. Ludlam for his valuable addition to our works on practice, and cordially commend his volume to our colleagues.

MISCELLANEOUS.

On Podophyllin in Infantile Diarrhœa. By Dr. DECK, Dunedin.

I do not intend to give the record of any cases, for they just repeat each other over and over again; but I will give shortly the group of symptoms that I have found *Podophyllin* so frequently relieve, and then point out the difference between them and the symptoms indicating other medicines in frequent use in the same disorders.

The general condition of children is worse in the morning and forenoon. If the attack is severe they lie in a restless drowsy state, with half-closed eyes, constantly moaning, and rolling the head from side to side during the forepart of the day; but they

often cheer up a little in the afternoon. The head is hot and the cheeks flushed; the head sometimes perspires much during sleep; there is a great thirst for cold water in large quantities at a time, but little desire for food; very frequent retching without bringing anything up, or what Dr. Williamson called gagging, a movement made with the mouth as if about to retch, but not accompanied with any effort made in the stomach. If dentition is going on there is a great desire to press the gums or teeth together—the jaws are often so clenched that it is difficult to introduce the finger into the mouth; they sometimes keep any food they have taken in the mouth without swallowing, with the lips pursed up, as if it were a relief to have something to press the jaws against.

The diarrhœa is generally worse in the morning on waking and in the forenoon, but it sometimes goes on all day, and is usually better at night. The evacuations are sometimes preceded by colic, in which the child clenches its hands and straightens itself out. There will often be three or four movements of the bowels within an hour after the child wakes, each one very profuse and exhausting. They generally come with a sudden gush, and in all the cases I saw were very fetid and offensive. The bowels often act after food, and sometimes while the child is being washed. The appearance of the motions varies. In diarrhœa they are generally watery, sometimes like dirty water soaking the napkins through, and with a meal-like sediment; sometimes greenish in colour, generally profuse, frequent in the forepart of the day, gushing, and very offensive. In dysentery they consist of greenish-yellow slimy or bloody gelatinous mucus, alone or mixed with a fœcal motion; but there is also much tenesmus and often prolapsus of the bowel. The tongue is sometimes coated, but sometimes remarkably clean considering the amount of intestinal derangement. There is often much emission of flatulence with the stool.

The most characteristic of these symptoms as pointing to *Podophyllin* are the *profuse offensive sudden stools*, with *morning aggravation*, combined in severe cases with the *Belladonna*-like head symptoms. I will now compare these symptoms with similar ones belonging to other remedies.

Belladonna is strongly indicated by the head symptoms: the drowsiness, constant moaning, and rolling the head from side to side, the half-closed eyes, the heat of the head, the flushed face,

and the thirst, all point in a marked manner to that medicine ; but the aggravation with *Belladonna* takes place, not in the forenoon, but in the afternoon and after midnight ; and there is more cerebral excitement, as evidenced by the violent startings or jumpings of parts or of the whole body, and the very hot fever at night, which are wanting in *Podophyllin*.

Arsenicum.—The occurrence of offensive painful stools immediately after taking nourishment remind one of this medicine. It is also indicated by great exhaustion and emaciation and thirst ; but the aggravation with *Arsenicum* is always at night, especially after midnight ; there is present distressing restlessness, so that the little patient is constantly changing place ; the thirst is violent, unquenchable, with frequent drinking of small quantities of water, and the motions though frequent are scanty. The characteristic thirst and restlessness quite distinguish it from *Podophyllin*.

Chamomilla is indicated by frequent green mucus, or green and white mucous stools, sometimes like eggs beaten up, and they have the odour of rotten eggs as well ; but the mental condition which is the important one in *Chamomilla*, is very different from that in *Podophyllin*. The child is peevish, bad tempered ; it has what some term rages of crying, and is only quieted by being carried about. It is very useful when there seems an excessive sensitiveness to pain on the part of the child, or a pain in its temper, if I may so term it ; also when the temper of the mother, if nursing it, has been disturbed ; but it is not indicated in diarrhœa of long continuance.

Ipecacuanha is indicated by green mucous stools often as green as grass—sometimes looking as if fermented ; but the chief characteristic is the constant nausea often accompanied by the vomiting of large quantities of mucus, which is generally green also, and there is much flatulent colic. It is often indicated at the period of weaning when food disagrees, in nausea and vomiting, with diarrhœa from dietetic errors. There is no thirst, and it is seldom suited to diarrhœa of long continuance.

Mercurius solubilis is the medicine most frequently indicated in dysentery. The stools are slimy, mucous, bloody, greenish, with tenesmus, as in *Podophyllin*, but they are generally frequent and scanty with very little smell, in this particular differing much from the latter medicine. The aggravation is generally at night. The continual urgency is well marked ; there is straining before,

but more during, and still more after stool, so that the child cannot get done. The stools often corrode the anus and the adjoining parts. The gums are swollen and tender, with some increase of saliva. The child's legs and thighs are cold and clammy at night, and there are often sour perspirations at night which do not do any good.

Pulsatilla is indicated by watery, greenish-yellow diarrhoea in the night with rumbling in the abdomen, and has not much similarity to *Podophyllin*.

Veratrum album is indicated by profuse, greenish watery stools, with flakes, accompanied by violent thirst, violent vomiting, and great prostration with paleness and coldness, often a cold sweat on the forehead, giving a pale deathly appearance.

These remarks may help some reader who is at a distance from medical aid in his choice of medicines; only I will add that a few doses of *Aconite* at the commencement, when there is much fever, thirst, and restlessness, will always be found useful. It is a good plan to give a dose of the medicine which is chosen after every movement of the bowels. I have used *Podophyllin* generally in the 12th—sometimes in the 6th dilution.

Some hydropathic appliances form useful addenda in the treatment. Flannel cloths wrung out of hot water and laid across the bowels, or warm sitz baths give much relief where there is much pain. Some object to them because they are weakening; they would weaken a child in health if often used, but in disease they soothe the system when in pain, shorten its duration, and weaken much less than the pain itself. In the intervals between the attacks of pain, if the bowels feel hot to the hand, a small handkerchief may be so folded as to cover the whole of the abdomen, and then wrung out *quite tight* in cold water and laid across the bowels, and a thick dry cloth placed over—rather larger than the damp one—and kept in place by a binder round the body. The damp cloth can be wrung out again in cold water whenever it becomes hot and dry. This will keep down the heat where the disease is, and also make the hot cloths more effective when the attacks of colic come on. Advantage is also derived in dysentery from throwing up the bowel injections of tepid water, or cold starch and water, after every action of the bowels. Give the patients as much cold water in small quantities as they wish, or rice water, or toast and water if they prefer it. Food must be very simple, and in small quantities at a time. When there is

much exhaustion small quantities of good beef tea may be given cold.

In the debility resulting from a severe attack, especially when there exists a disposition to relaxation of the bowels directly after taking any nourishment, and food is seen to pass in an undigested state, repeated doses of *China* will do good, and materially aid convalescence. In cases that come under treatment after having been drugged, a few doses of *Nux vomica* will clear the way for the exhibition of some medicine more clearly indicated by the real symptoms of the case, as it will help to remove the medicinal ones that have been produced. It must not be expected that all attacks of diarrhoea or dysentery can be cut short, even when taken in time. Some attacks of these disorders depend on a specific poison taken into the system, as in low fever, and will, like that disorder, run a certain course, and often last for a considerable time. If depending on some dietetic error, or resulting from a chill, or from the irritation of teething, they will pass away more quickly, except that during dentition there will be a frequent liability to return, and in many cases a slight looseness of the bowels seems to be salutary in rendering brain affections less likely to occur. I will conclude by adding that without any medicine, with the persevering use of hydropathic appliances and careful nursing, the little sufferer may be brought through in a more satisfactory way than by the antiquated *Chalk mixture*, *Catechu*, and *Laudanum*, which generally only increase the intestinal irritation. But I prefer, of course, the combinations of water appliances with specific medication.—*New Zealand Homœopathic Gazette*, July, 1872.

*Steatomatous Tumours of the Scalp.**

DR. KRAFFT-EBING says that since 1863 he has removed many of these tumours, varying in size from a bean to a pigeon's egg, by a very simple procedure. This consists in the subcutaneous injection of a few drops of a solution (0.65 in 15 parts of water) of tartar emetic. In two or three days the skin ulcerates sufficiently to discharge the contents of the tumour without inducing erysipelas or nausea. He has not in any of his cases met with return of the tumour.—*Berlin Wochenschrift*, March 15.

* *Medical Times*, 22nd May, 1869.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

A FEW REFLECTIONS SUGGESTED BY A RECENT
VISIT TO ST. MORITZ AND SAMADEN IN
THE UPPER ENGADINE.

By VERNON BELL, M.D.

THE vale of the river En or Inn, from which this Grison depression takes its name, is divided into two parts, the Upper and the Lower Engadine.

The valley starting from the Italian frontier in the south-west, at an elevation of 6000 feet above the level of the sea, trends in a north-easterly direction with a gradual dip of about 2500 feet, and ends among the mountains of the Tyrol.

It is intersected throughout its entire length of sixty miles by a good road. Its width varies from fifty yards to about three miles, the broadest part being in the neighbourhood of Samaden, the principal village and capital of the valley.

The central portion of the valley, which is that best known to invalids, forms a sort of rough ellipse having St. Moritz at one end of the transverse axis and Zuz at the other, while Samaden stands at one extremity of the conjugate and a point on the road to Pontresina at the other.

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Pontresina itself may be excluded from consideration here, because it is the headquarters of the young and healthy, and of those pedestrians who seek fame by climbing peaks and crossing glaciers.

St. Moritz and Samaden then, the one for its springs and the other for its good hotel and shops, are the two places in the Upper Engadine best known and most frequented by the English and invalids.

The upper part of the course of the Inn, before it receives that name, forms a chain of pretty lakes, whose surfaces reflect bright pictures of the imposing mountains which bound this Alpine depression throughout its entire length. After leaving the lake at St. Moritz the stream takes the name of Inn, and winds through the ellipse of quiet pasture land. On both its sides the meadows and slopes of the mountains are enamelled in the early summer with the most brilliant flora in Switzerland, while upland forests of larches and Siberian pines climb to an elevation of 7000 feet, and are then surmounted by peaks of perpetual ice and snow.

Our tried and unerring old servants the Arnica Montana, and Aconitum Napellus, flourish abundantly around St. Moritz, fulfilling the beneficent functions of adorning open spaces and shady nooks while waiting to minister to ills that afflict our flesh and blood. These plants are to be found in luxuriant profusion throughout June and July, the one diffusing aromatic odour from many a head of large golden-yellow flowers, the other attracting every eye by its stately spikes of rich dark blue helmeted corollæ.

The Upper Engadine is a somewhat silent region. There are no woods on its lower declivities, and, at least in the autumn, there are few birds of song.

It is inhabited by a Protestant people, remarkable alike for their intelligence, industry, and frugality. Though a mixed race they pride themselves on their Roman origin. Their language, Romansch, or as they call it "*Ladin*," is probably a dialect formed on the basis of the Roman vocabulary and the Celtic idiom. Their government is absolute, for no deformed person is allowed to marry; and

democratic, for according to their old proverb, "next to God and the sun, the poorest inhabitant is the chief magistrate."

The villages throughout the Engadine are large and populous, with the majority of the houses solidly built to resist the severity of "three months cold and nine months winter," which as avowed by the natives themselves constitute the annual climate of the district. This ancient judgment, however, was pronounced before the irruption of English tourists and the diffusion of English gold. In process of time some amelioration in the thermometrical variations may be recorded, for even now the occasional appearance of snow and hoar frost in July and August is a topic of conversation on which the hotel-keepers do not care to expatiate. But, however ungenial this valley may be to strangers, its rigours seem to possess an invigorating power, and its associations an enticing charm for its sons, who, scattering themselves in early life throughout the industrial centres of Europe, amass money to return and build houses which decorate, though they scarcely harmonise with, the bare and savage landscape around. If some feeling of love of country had not existed, the Upper Engadine would probably by this time have been devoted to summer grazing only; for, except scattered patches of land for barley and rye, which do not invariably reach maturity, there must ever remain the most limited field for husbandry. The Engadiner's fervid patriotism and desire for money have, however, contributed to make this valley the highest continually-inhabited spot on the Continent of Europe.

The quickest way to the Upper Engadine from England is by Paris, Bâle, and Coire. Even with sleeping at each of these places, St. Moritz or Samaden may be reached on the fourth day. At present the railway terminates at Coire. The roads hence into the Upper Engadine resemble a λ turned down. The traveller, therefore, on reaching Tiefenkasten can select the limb to the right over the bleak and solemn Julier, or that to the left by the pass of the wild Albula, according as his destination is St. Moritz or Samaden. Invalids from the Mediterranean and the South

will, of course, go by Genoa, Milan, Lake Como, Chiavenna, and thence into the Engadine.

The visitor to the Engadine will select his quarters according to his aims and needs. If young and athletic he will probably find Pontresina most convenient for excursions to glaciers, and ascents of peaks. But it should be remembered that, owing to its situation at the confluence of two valleys and its proximity to glaciers, it is more liable to sudden thermometrical variations than either St. Moritz or Samaden, besides which, it is more subject to góftre, while socially its nights are noisy.

Those past the meridian of life and desirous of all the quiet benefits an elevated region can bestow without much exertion on their own parts, will most likely select Samaden. To such health-seekers Fanconi's Bernina Hotel so well known throughout the Engadine will always be attractive. If they are fortunate enough to obtain rooms they will be sure of ample and varied fare with an intelligent obliging host. These are important elements in the process of restoration, especially for invalids who shrink from a crowd and who confide in the recuperative power of pure dry and energising air without the aid of baths and waters.

Samaden during "the season" is never dull and never bustling. It has the tone of a place which could subsist without the influx of tourists and searchers after health. Still, much of its summer activity is derived from the coming and going of English and other visitors. Its shops, if not alluring, contain all that is absolutely requisite, and through the indefatigable, self-denying exertions of the Rev. Stenton Eardley, of Streatham, who has spent many of his annual holidays here, a tasteful little English church has been built, in which service is performed during the season by well-accredited Evangelical clergymen.

The distance from Samaden to St. Moritz is about four miles, and we would caution all who employ the little open curricles which ply for hire to be careful who drives them. The owners often entrust them to boys from the hills who are wholly unacquainted with either the horses or the vehicles. The horse attached only by rope traces and a

collar runs alongside the pole, destitute of any harness to check the speed when the carriage is going down hill. This duty of checking consequently devolves upon the coachman who is incessantly working the handle of his drag while travelling along a hilly road.

Besides several minor casualties, an English lady was killed in this district last summer through the incompetence or carelessness of the driver, and a few weeks before we reached the Engadine two friends of ours had been overturned by the ignorance of the boy who failed to control the downward course of his vehicle. One of them, a lady, we found at the Bernina Hotel, where she was still confined to her bed, as she had been for six or seven weeks in consequence of the accident. The memory of the natives seems not much exercised in relation to such events. We were assured at Süss that "within the recollection of the oldest inhabitant" no accident had ever occurred on the Fluela Pass over which we were about to essay a nocturnal passage. Yet within a few hours of this asseveration, while crossing from the Lower Engadine into the valley of Davos about midnight under a full moon we received a scare which effectually roused the conductors of the "malle-poste" and us from our doze. The vehicle was or had been trundling along with its four occupants when suddenly there was a horrid swag to one side and a violent halt. The three leaders stood across the road at a right angle, and the two wheelers looked as if they knew they had been in peril. The "malle-poste" itself was in a deep subsidence at the edge of the road within a foot of a savage ravine strewn with fragments of rock, and bottomless as far as our moonlit vision extended. The poor beasts received divers objurgations for, as we supposed, the men's falling asleep, and happily we did not add another accident to the legion of mutilations and deaths which annually occur to travellers on the Continent, but which are so carefully hushed up before the stranger.

St. Moritz is the highest village on the Engadine trunk road, and overtops the very ordinary looking lakelet which forms the main reservoir of the Inn. The most merciful criticism that can be passed upon the place itself

is simply that the constructive and utilitarian instincts of its founders have overcome that sense of the beautiful which induced them originally to select such a site. It has hotels, *pensions*, and the haylofts of cowhouses into which visitors have sometimes been fain to creep during "the height of the season."

If the last accommodation could be reserved exclusively for the monied robustious of every commonwealth who crowd out the wearied brain-toiler and invalid, the experience might be the turning-point in many a purposeless life. As it is, the landlords of St. Moritz are sometimes hardly pressed to find food and shelter for those who most need both. The greater part of the fish, fruit, and flour is brought over from Coire and the Italian side, and the wines with other "indispensable requisites" of an Englishman's dinner are not home products of the Engadine. Therefore, that people are fed at all tells a good deal in favour of the native purveyors who fetch so much perishable material from such great distances.

About a mile south of the village of St. Moritz stands the Bath Establishment on the right bank of the stream. For the present it is the most popular sanatory rendezvous in Eastern Switzerland. At a little distance it looks like an uncompleted cavalry barrack, occupying two sides of a square, but on closer inspection its features improve, and the visitor finds an ample airy hotel, with bath-house and covered promenade for wet days. The internal arrangements are fair, and the rooms though plain are comfortably fitted up. The proprietors contemplate enlarging the establishment by the addition of a third side to the square, and hope when that is finished to be able to accommodate 500 patients. The baths themselves, made of larch and Alpine cedar, have a rather *mesquin* look, but, on the whole, the aspect of the place is that of a spacious, clean, and well-conducted sanatorium.

As at almost all watering places, patients at St. Moritz rise early, bathe, and drink the waters between six and nine, after which they breakfast. Some prefer to take

their bath after breakfast, which for the feeble and anæmic is perhaps the more expedient.

After dinner, which is, according to the German custom, about noon, the business of the day is over, and the remainder of the time can be employed in consonance with the tastes and abilities of those undergoing "the cure."

It would be difficult to assign the respective shares which cool rarefied air, the reconstituting powers of morning exercise, and the sparkling iron waters have in the promotion of health. Excepting in certain cases of anæmia, neuralgia, and debility, it is possible the same regimen with morning draughts of aqua pura might be productive of equal benefits in less severe and elevated regions.

Beyond the extrinsic advantage of altitude the mineral sources of St. Moritz do not possess any therapeutic specialty, as far as we know, which is not possessed by other gaseous chalybeates of similar strength. Like almost all ferruginous waters they are cold—42° Fahr. The amount of iron they contain is small, but they are fully charged with carbonic acid, which makes them pleasant to drink.

The St. Moritz or old spring (*alte quelle*) contains in sixteen ounces—

Free carbonic acid—cubic inches	. 39½
Carbonate of iron	. 0.18
Other ingredients	. 10.72

The Paracelsus, or new spring, contains in sixteen ounces—

Free carbonic acid—cubic inches	. 40½
Carbonate of iron	. 0.25
Other constituents	. 13.25

The mineral ingredients are the same in both springs, but the "Paracelsus" contains more iron, lime, magnesia, and carbonic acid than the old spring.

Medical balneographers from the middle of the sixteenth century have handed down the name of the old alchemist—hence the title of one of the sources—for having extolled the St. Moritz chalybeates as "the strongest and best of

their kind in Europe." This commendation is, however, very apocryphal, for Paracelsus was a great though sometimes an involuntary traveller, and was in all probability acquainted with the more highly mineralized waters of Schwalbach. The wisdom of nature's hydrologic arrangements is fairly exemplified in the respective qualities and positions of these two spas. Both are impregnated with iron and carbonic acid. Schwalbach waters contain two and a half times as much iron as those of St. Moritz, and a little more carbonic acid, but the altitude of the one station is six times higher than that of the other. Schwalbach chalybeates drunk at such an elevation as St. Moritz might be inefficacious, perhaps even hurtful. It must be so if the theory is correct that the safe assimilation of iron maintains a direct ratio to the quantity of oxygen which the system can absorb and utilise, for notwithstanding accelerated respiration at St. Moritz the quantity of oxygen inhaled there is necessarily less than at Schwalbach. The greater the quantity of oxygen inspired the greater the quantity of iron assimilated and conversely the less oxygen, the less iron.

It would seem, therefore, that the small amount of iron in the St. Moritz waters is a fact to be urged in their favour rather than the reverse, for even should the stronger ferruginous springs be appropriate at the lower level, they might not be fitting at a much higher elevation. Indeed it was irrespective of altitude that our observant countryman Cullen wrote (as quoted by Dr. Macpherson) when he said, "Mineral waters often produce cures which we in vain attempt to perform by the combinations in our shops, even although those waters contain nothing but iron. This is manifestly owing to the weakness of the dose; in proof of which we find that the strongly impregnated waters seldom answer so well as those weak ones we reject." This experience of Cullen is a further confirmation of the truth of rational therapeutics and is in favour of the feebly mineralized springs of St. Moritz. Those authors who have impliedly depreciated them on the ground of their ferruginous weakness may have been unconsciously influenced,

perhaps, by the current notion that as iron is a "food medicine" the more of it a patient can swallow the better. Their views may receive some encouragement in cases of debility from great loss of blood, or inordinate discharges, and in tedious convalescence from acute diseases, but with these exceptions weak iron springs are preferable to strong. Great hurt has often been done by the employment of powerful chalybeates, notably in chlorosis, a disorder which old militant and new specific physic have alike combined to combat by an indiscriminate and free supply of iron.

The most recent researches of Virchow appear to indicate that old practice in the therapeutic administration of iron, either organised or unorganised, will stand in need of revision, especially in its application to chlorosis, as he believes (from his anatomical examinations) that most aggravated instances of this disorder are much more due to a congenitally narrow aorta than to a deficiency of the cellular elements of the blood, and avers, besides, that one of the invariable consequences of the vascular anomaly is chronic hyperæmia of the lungs often ending in true brown induration.

Such an abnormal deviation, and its pulmonary product would seem, therefore, to confirm the opinion of Trousseau who long ago denounced iron in chlorosis as injurious in an eminent degree, and alleged that while it *appeared* to induce a factitious return to health, it invariably fixed the tubercular diathesis, though a simple predisposition only had existed before.

If chlorosis is really dependent upon so serious a mechanical impediment, this accounts for the injury sustained by the general health and the lungs consequent upon the cardiac excitement and increased volume of circulation induced, by either a prolonged use of weak iron waters, or large doses of them.

These points, however, must be sooner or later settled by the progress of physiological and therapeutic research. We may remark that iron at any elevation has often seemed to us to be worse than useless, unless conjoined with abund-

ance of oxygen, or, in other words, out-door life with fresh air ; but in instances of severe chlorosis, the great height of St. Moritz, and its iron, feeble though it is, can scarcely be otherwise than detrimental, and this we have been assured the experience of many corroborates.

It should be distinctly understood that an intractable chlorosis ought to be very carefully scrutinized and on no account be sent to St. Moritz without some individuating reason more discriminating than that iron and attenuated mountain air are good tonics.

The climate and waters of St. Moritz, perhaps, more than those of the majority of the elevated sanatoria of the present day stand in need of fresh study and analysis ; and until carefully conducted experiments and observations are made of the effects of both upon the components of the urine, especially upon the increase or diminution of the urea and of the phosphatic and uric acids, little trustworthy judgment to aid doctors and patients can be formed.

To those who believe in the doctrine of similars, the entire field of balneo-therapeutism is in an unsatisfactory state. As an instance in point, if we had a picture of the specific action of St. Moritz springs upon the healthy, we might with comfortable accuracy determine when they would be sanative or the reverse. Their combination of the carbonates of lime, soda, manganese, magnesia, iron, the sulphates of potash and soda, common salt, silica, phosphoric acid, bromine, iodine and fluorine, with a proportion of carbonic acid is therapeutically a new agent to be proved. It is not enough to analyze the water, and then administer it in bulk simply because the control which some of its constituents possess over certain disorders is known.

As matters stand we are thrown upon pure empiricism, or like some disciples of the sect* of militant physic, we may cut the investigation short by asserting that the action of all mineral waters is much the same, for that they merely

* We employ the word "sect" here in its true, not in any sarcastic sense, and the term "militant," as we conceive, fairly represents the dogma of *contraria contrariis* in its therapeutic application to the human economy.

induce an organic perturbation which the directive forces of the system seize and utilise for the restoration of health.

It is equally useless in the present state of our knowledge to attempt to discuss the *rationale* of *bathing* at St. Moritz.

Our accomplished colleague, Dr. Bayes, has given in the twelfth volume of the *Monthly Homœopathic Review* a well delineated account of the effects of these baths on his own person. At first the baths which ranged from 70° to 80° induced some of the ordinary results usually caused by moderately cold water, viz. lowered cutaneous temperature and contraction of the capillaries of the skin. These were followed by cerebral hyperæmia, as shown by headache and redness of the face. Besides the hyperæmia, there may have been also a moderate degree of "shock" to the nervous centres, which would account for the "bruised feeling over the body and limbs." These effects, however, do not differ from those often produced by simple cold water. It is possible the carbonic acid in the St. Moritz waters may have some peculiar effect on the nerves of the surface. It certainly modifies the temperature and weight of the aqueous layer next the skin, but beyond these almost inappreciable results it can hardly cause any special action.

The mineral ingredients of soda, lime, magnesia and iron applied externally are of still more doubtful utility. If any of them are absorbed by the skin, they ought to be found in the urine and other excreta, or in the blood.

It is not impossible that the skin may absorb a minute portion of water as some allege, but it has yet to be shown that a mineral substance like iron held in solution by it, is taken into the circulation. Whatever the *modus medendi* may be in any case, in that of Dr. Bayes it appears to us from his interesting narrative that he grew strong not by any aid from the baths, but in spite of them.

The maladies most ameliorated by a stay in the Engadine are those which, in the beginning at least, do not well bear baths of any sort, such as constitutional debilities of the young and middle aged, exhaustion from abortions, hæmor-

rhages, rapid fecundity, prolonged lactation, and many kinds of brain overwork. In these, in various spanæmic conditions, and in convalescences from typhoid, intermittent and malarious fevers, we have known the *St. Moritz baths* to be answerable for a good deal of mischief. The disintegrating effect of morning water drinking on the economy of weak people is as much as they can bear without having heat abstracted from them by tepid or cold baths. Indeed many should quietly reap all the benefit they can from the change of air and scene, and instead of rising early to drink mineral water and to bathe, they ought to stay in bed till eight or nine o'clock, and, as soon as they can procure it, drink a cup of hot milk or chocolate. By this plan they might gradually acquire sufficient tone to enable them to use the baths and would probably escape the risk of increased debility which often affects the weak who suddenly adopt the full "*Kur.*" The air of the baths is sometimes rendered moist and oppressive by the diffusion of the steam employed to heat the water, the prejudicial effect of which atmosphere upon the feeble is often indicated by their quickened circulation, and even slightly elevated temperature.

We recommend any suffering from debility not to begin the baths for four or five days after their arrival, and not to remain longer than ten minutes in the first bath, but to gradually extend the time to twenty or thirty minutes as they are able to bear the immersion. Similar precautions apply to drinking the water. The patient should begin with a small quantity, and had better not attempt to accelerate his recovery by taking larger doses if he feels himself making progress.

He should present a written statement of his condition from his own doctor to the medical director of the establishment, or to any other physician on the spot who is acquainted with the therapeutic resources of the district. In the Upper Engadine, especially, it is essential in all cases of structural or even of severe functional disease to seek the opinion of some doctor who knows the curative powers of the place. This is more particularly important in pul-

monary disorders, in affections of the heart, and in plethoric conditions of the head, when any of the last two happen to have been misdirected thither.

The broad features of a climate like that of the Upper Engadine are known to many English and foreign doctors, but the native practitioners, whose enthusiasm can be modified by the intelligent scepticism of the patient, are obviously best qualified to watch and correctly interpret the nicer effects.

In our opinion any patient, whatever the nature of his malady, who is not sensibly better in four days to a week ought to leave the Engadine.

Notwithstanding its variable climate it has obtained a notoriety among European invalids and valetudinarians, which we venture to predict neither its capacious cure-house nor its bracing rarefied atmosphere will very long sustain. The sick public are as gregarious as the whole public, but the necessity for change of scene even more than for change of air is sooner or later inevitable. When the rush has set in elsewhere, the advantages and disadvantages of the Engadine may be judged impartially, but at present the bulk of medical and lay opinion is in its favour.

Until the physiological effects produced by the climate upon healthy inhabitants and strangers, besides the effects produced on the sick are better known and their records collated, we shall not have a trustworthy guide, for we cannot rely upon mere meteorological observations and tests to teach us the true nature of the climate. At high elevations the relative conditions under which an animal organisation maintains its vitality are so counterpoised that very little difference is felt by the majority of human beings. When diminished atmospheric pressure gives a sense of greater elasticity, the oxidation of tissue is lessened. When there is greater activity of the cutaneous circulation, there is a lower temperature to counteract it. When there is more rain, the air has more capacity for taking up moisture. When there is greater solar radiation by day, the thinner air receives the earth's heat back more readily throughout the night. In short the reciprocal interactions are so arranged that the human system as a

rule finds little difficulty in adjusting itself to any climate. An isolated idiosyncrasy may here and there at a great height manifest such symptoms as ringing and pain in the ears, headache, insomnia, excitement and bleeding at the nose, but aerial rarefaction does not often sensibly disturb the functions of individuals in average health.

We ourselves have crossed the chief European passes in all states of the atmosphere, the Simplon, Splügen, Mont Cenis, and highest of all the Stelvio (nine thousand and forty-five feet) without perceiving the least difference from diminished pressure in either accelerated circulation or respiration ; and aeronauts who have quickly shot up four miles (over twenty-one thousand feet) into the air, have been so busied with their meteorological observations or with manipulating their balloons as to be unconscious of any other inconvenience than a sensation of extreme cold.

Still, the effects of fear on some timorous natures are so powerful that the mere knowledge that certain symptoms *have* occurred in Alpine districts is frequently sufficient to induce such in them. Individuals of sanguine temperament very often experience uncomfortable sensations on ascending heights, most of which probably arise from the gases inside the body seeking equality of weight with the more rarefied air without, and indeed it is well-known that pain in the tympana of climbers is relieved by the act of swallowing because it admits the thinner external air and thus takes off the pressure outwards from the inner side of the drum.

Sometimes headache, palpitations, and bleeding of the nose, have arisen from active exercise on a plane surface at the level of the sea, but these are rare casualties, and as a rule few are incommoded by the different atmospheric conditions of moderate or even great elevations. For when the atmospheric weight of fifteen pounds on a square inch of the surface is reduced as at St. Moritz to about eleven and a half, a corresponding lightness soon obtains in the interior of the body, and the diminution of aerial weight is little felt because the tissues and serous cavities are permeated with fluid of similar tenuity to that which is external. The pressure within is equal to the pressure without.

Diminished aerial density augments and accelerates the circulation and transpiration of the surface of the body, at the same time the lessened supply of oxygen quickens respiratory action in order to maintain the animal heat. The increased cutaneous transpiration relieves the pulmonary blood stasis while the accelerated respiration promotes the elimination of carbonic acid and great expansion of the air-cells. The prophylactic and curative influence of these conditions is apparent in cases of pneumonic phthisis with a tendency to cheesy transformation, and in some cases which have even reached the stage of cavity, especially if the sufferers are below the age of puberty. On the other hand true miliary tuberculosis in an advancing but yet comparatively quiescent state would run a risk of being prejudicially affected, if not indeed, kindled into a fatal activity.

There is a general feeling among physicians against sending patients who have suffered from hæmoptysis to Alpine heights, but where the nocturnal pulse and temperature are not persistently above a hundred, and the temperament is not sanguine, an absolute prohibition would not in every case be very judicious.

If we had reason to suspect any considerable lesion or breaking down of lung tissue from miliary deposit, in other words, if the bleeding occurred in the course of established phthisis, we should recommend a patient not to venture upon great heights.

But, on the other hand, if the hæmorrhage was a first attack, and had not been preceded by dyspnoea, cough, or any other physical sign of lung derangement, we should acquiesce in a strongly expressed wish to visit the Engadine, but would advise a preliminary trial of a less elevated region, such as Heiden.*

When sudden hæmoptysis leads to the suspicion that it is, perhaps, the precursor of true tubercle, it may be wise to propose a prolonged stay during several summers in a locality of considerable height.

The expansion of lung cells, as already remarked, is one of the best prophylactics against the abnormal collection of

* See our observations on "Heiden" in the April number of this Journal.

cellular elements or any other products of by-gone inflammatory action, and that expansion is most promoted by rarefied air which necessitates increased inflation in order to compensate for the diminished supply of oxygen.

Then if the conjecture that ozone tends to retard waste can be substantiated, we have in many cases an additional inducement to try the curative power of altitude, for as we learn from the recent compilation of Fox the amount of ozone, as indicated by the ozonoscope, increases with elevation. For instance, the quantity at heights of two to four thousand feet is thirty-three, and of those at four to eight thousand feet seventy-seven, the humidity at all the heights being the same—eighty-three.

The effects upon health of temperature and its diurnal fluctuations appear to us, however, to be as important as the changes which result from the tenuity of the atmosphere, the diminution of oxygen or the increase of ozone.

It is true that the climatic effects of elevated regions are notoriously inconstant in their operation; still, some of the most important flow from the daily "range of the thermometer."

It has been repeatedly asserted by different observers that the variation of temperature at St. Moritz in the middle of summer has been in one day as much as 45° to 50° ! This must be an extreme fluctuation, yet in a thermometrical table by Dr. Bayes extending over three weeks of June and July the variation was as much as 24° in twenty-four hours, and as little as 1° in a few days afterwards. The coldest night was 31.5° ; the warmest 70° . The mean nocturnal reading for the three weeks was 42.5° ; the mean diurnal 58° , making a mean difference of $15\frac{1}{2}^{\circ}$. This mean difference may be considered sufficiently great and injurious for three weeks in the height of summer; but besides this, mean averages of temperature at St. Moritz as elsewhere are fallacious, because they never accurately and fully express the *sudden* transitions which are often the cause of intense suffering to delicate invalids. Even among the hardy natives these vicissitudes frequently produce cases of dangerous pneumonia, catarrhal fever, and

pleurisy. The latter is so frequent as to have received the name of "*Alpenstich*."

Notwithstanding all that has been said for and against the Upper Engadine, it is at present the most fashionable air-cure station in Europe. Those writers who have vaunted its efficacy in pulmonary consumption have not been sufficiently explicit, however, in defining either the kinds or the states of the disease which are "uniformly benefited." An incorrect estimate of the virtue of a locality is certain to be formed where all instances of wasting from pulmonary disease are lumped under the generic name of phthisis, and where the stages even are not sufficiently defined.

The partisans of the Engadine point to the immunity from consumption which the district possesses. But this proves very little until we know the composition of the death-roll, and whether the rigours of the climate do not "kill off" in early life those who were hereditarily and constitutionally prone to scrofulous and tubercular disease. Besides the character of the dwellings, the occupations, habits, and food of the people need to be weighed before judging of the preventive properties of the soil and climate of a mountain region.

According to the last medical report of our army, phthisis seems to occur at all kinds of elevations in all quarters of the world, and appears to owe its existence to defective hygiene, badly assorted diet, and irregularities of all kinds much more than to climate. We may observe, in passing, that so far as food is related to the production of consumption, ill selected though ample fare is more injurious than a scanty supply.

In other parts of Switzerland, and at considerable heights, those members of a community who are engaged in outdoor occupations are remarkably free from scrofulous and tubercular affections of the lungs when compared with others of the same community who are confined in close workshops.

This seems to indicate that the immunity of the Upper Engadine (we do not refer to the lower part of the valley where tuberculosis is acknowledged to prevail to some

extent) does not to any great degree arise from its climate; but whatever the advantages in point of simple climate possessed by St. Moritz, the cure-house itself is very wanting in one essential, a dry subsoil. It is built upon dank alluvial land and ought to be avoided by invalids suffering from disorders of the lungs or bowels.

In our opinion any other wide, open valley of less elevation not too far off from England, free from the proximity of glaciers, and running from east to west so as to have the sun on it all day, would meet the requirements of an air-cure station better than the Upper Engadine. Of course, its sanatorium-hotel ought to be a retreat with a sunny aspect, well sheltered from obnoxious winds, on level ground and dry soil. The food should be good and ample, the society cheerful, and all the arrangements should, as far as possible, have the genial domesticity and repose of home.

Our readers may say, and with some truth,—Why wish to multiply foreign health resorts? The search after them is already one of the medical manias of the hour, and there are ample resources within our own shores to meet most of the needs of our English sick. This is probably partially true, but, after all, physicians are merely regulators of the irrepressible impulse for locomotion which, in the present day, has seized all kinds and conditions of men. Even valetudinarians, of whom some more adventurous than others, not satisfied with the Engadine as an abode for the summer, have regarded an unbroken covering of snow, an atmosphere below freezing without and heavy to stifling within, as compensating substitutes for home or a more genial land in the winter.

We discard the Engadine as a *winter* residence for the valetudinarian, much more for the sufferer from grave organic disease; and even in the summer its diminished pressure, agitated air, intense light, burning heat by day and biting cold by night, with its large amount of positive electricity, are often enough to excite and exhaust the apparently most healthy. Even when a person has experienced an unusual accession of strength at first, we

have known his protracted stay end in loss of appetite, dryness of mouth and fauces, flatulence, thirst, constipation, profuse perspiration, muscular debility, and many other signs of thorough exhaustion of the nervous centres. The fact is the patient had indeed lived too fast, and had to pay the inevitable penalty of reaction.

On such a train of symptoms setting in, the invalid should seek without delay a more moderate elevation where his respiration will become less deep and active, his pulse more calm and regular, and the equilibrium between his arterial and nervous systems be re-established; where his muscular power will be stimulated to greater activity, and he will have leisure to reflect that for *him*, at all events, the Engadine has not been sagaciously selected.

Those who are weak from anxiety, overwork, or town life, but who have a strong recuperative bias—a hidden reserve force—will be greatly benefited by a stay in the Engadine. On the other hand, those who are innately feeble, who are excited but not strengthened by its mid-day sun, while they are “perished” by its nocturnal cold; those, whose *pars occipitalis et nucha* indicate a narrow brain-base or defective animal life had better descend to lower levels. The old, unless preternaturally vigorous, should not venture up so far, and the very young should only be carried thither if absolutely obliged to accompany their guardians.

When any invalids from England attempt to go into the Engadine in July and August we warn them to secure rooms before they leave Ragatz or Coire (German Chur), and if they cannot themselves go to take possession of them on the day fixed, to telegraph or send an *avant-courier* to keep them till their arrival.

Those who suffer in the chest ought, as previously remarked, to avoid lodging at the bath establishment. The Hôtels Kulm and Badault, and the Post at the end of the village have a fair reputation, but some of the *pensions* are not particularly advisable. In the Engadine, however, necessity is its own law in July, August, and often in part of September.

During the season omnibuses run between the bath establishment and St. Moritz several times in the day, and little one-horse carriages can always be procured in abundance.

The Julier Hotel at Campfer about two miles up the valley from the baths, is favorably spoken of by the English, and still higher up accommodation for those who do not wish to use the waters can be procured at Silvaplana (Hôtel de la Poste), and at Sils (Hôtel Alpenrose). Then on the other side of St. Moritz there are Celerina and Samaden; but both are too distant for such as must drink and use the waters at the establishment.

Those who have read the preceding pages will probably have taken with them abundance of wraps and warm under-clothing; but if any should have neglected this precaution and cannot conveniently procure what they need, they will find benefit from a jacket cut out of one or two 'Times' newspapers and put on between their under and outer shirts. We have a warm recollection of the comfort derived from a 'Times' so utilised while crossing a cold mountain pass one bleak September morning.

In fine, then, we may say of the topography of the Engadine, that on the whole it is neither beautiful, picturesque, nor *very* grand, and yet that its climatic contrasts throughout June, July, and August coincide in a great degree with the description given by the Arabs of Mount Lebanon — "Winter rests on its head, Spring sports on its shoulders, Autumn lies on its lap, and Summer slumbers at its feet."

We do not consider the Upper Engadine therapeutically superior to other wide airy valleys of more moderate elevation.

Chronic disorders which are distinguished by a *deficiency* rather than by a *perversion* of vital force, and which under favorable circumstances tend to recover are generally benefited by the wholesome influences of its pure air, simple food, and rational hours.

On the other hand, all diseases whose proclivity is towards death, as cancer, diabetes, &c., have the fatal

issue accelerated by such a mountain climate as that of St. Moritz and its neighbourhood.

In addition to the disordered conditions on which we have already remarked in the preceding pages, we subjoin the names of a few others for which we consider a sojourn in the Upper Engadine more or less adapted, or the reverse.

It is generally suitable for—

Abdominal viscera—functionally congested states of the, from sedentary habits.

N.B.—If accompanied with hæmorrhoids the hot baths will probably prove of special service.

Abortions—miscarriages, exhausting affections arising from parturition.

Anæmiæ—and deficiency of the red part of the blood from various causes.

Bronchitis—chronic.

Cachexiæ—and general deteriorations of the blood, of non-structural origin.

Catarrhs—chronic laryngeal, bronchial and vesical.

Chlorosis—very mild forms of, *only*.

Chronic discharges, from mucous membranes—all kinds of.

Convalescence—tedious, from typhus, typhoid, paludal, and other fevers.

Cystitis—Chronic.

N.B.—Purulent discharges from the urinary passages are much ameliorated by the lime contained in the St. Moritz mineral waters.

Diarrhœa—chronic.

N.B.—Not the tropical forms.

Dyspepsias—of all chronic functional sorts, especially the atonic.

Hæmorrhoids.

Hypochondriasis—and all disturbed states of the general health, associated with depressed feelings, or exalted and exaggerated ideas, but free from disorders of the intellect.

Menorrhagia—especially in lax, leucophlegmatic women, and at the climacteric period.

Rachitis—and all kinds of perverted ossification.

Varicose veins—and cases of *venous* plethora generally.

The Upper Engadine is contra-indicated in—

Apoplectic disorders—and in most degenerative and tubercular affections of the brain and its membranes.

Blood-vessels—diseases of the large.

Bronchitis—subacute or inflammatory.

Cancer—all varieties of.

Constipation—chronic and obstinate.

Convulsive and nervous affections of the plethoric and vigorous.

Dropsies—cardiac and hepatic.

Dyspepsia—acute forms of.

Emphysema—pulmonary.

Epilepsy—and other allied functional disorders of its class in the plethoric.

Eye—structural diseases of the.

Heart—structural diseases of the heart and its membranes, especially in sanguine and bilious temperaments.

Intellect—acute disorders of the.

Laryngitis—subacute or inflammatory.

Liver diseases—and visceral obstructions of organic kinds.

The plethoric diathesis.

GENETIC HISTORY OF HOMŒOPATHIC INOCULATION.*

By Dr. A. CHEVALIER DE KACZKOWSKI.

WHILE the Medical Society of London were debating on the real value of the Jennerian inoculation, and considering the already expressed opinions and statistical data of the Medical Societies of Vienna, Berlin, and Paris, I was writing, as far back as 1858, a treatise on this subject in the Polish language, entitled *Preventive and Curative Remedies against Natural Smallpox*, which appeared as a supplement to the *Literarische Wochenschrift*. The reading public and many physicians shrugged their shoulders while reading this treatise and exclaimed, "What a fantastic proposition!" This is the usual way of judging of things which we at first cannot understand, or of the truth of which we will not take the trouble to convince ourselves by the test of physiological experiments; nevertheless I again and again determined to lay the facts of the question before conscientious physicians and other lovers of natural science, in the hope that one or other of them might consider this most important subject and make up his mind to investigate the thing impartially.

While practising allopathically at Hernats, near Vienna, as far back as 1836, I was for some time officially employed as public vaccinator. Being Assistant Surgeon in the General Hospital in Vienna during four years, I had every opportunity of studying all the phenomena of this disease; and finally, at the time of my travelling, for scientific purposes, in Germany, Belgium, France, and England, I made a point of collecting data bearing on the subjects of vaccination and of smallpox; hence, in the year 1842, I made up my mind to inoculate children only with original and true vaccine lymph and not from arm to arm, for I had

* From the *Internationale Homöopathische Presse*. Translated by Dr. Burnett. [The expression "Homœopathic Inoculation" is the author's own. The general practice of the homœopathic school is to vaccinate by puncture in the ordinary way.—Eds.]

convinced myself that this is the only way of avoiding the sad and not very infrequent inoculation of morbid humours.

In the year 1850 I went over to homœopathy and gave up vaccination, and in its stead I exhibited vaccine lymph in the 6th attenuation gtt. ij, on sugar, during three days in the morning on an empty stomach. This specific prophylactic sufficed to protect the children from natural smallpox. When anyone fell ill of variola I likewise gave this medicine to the patient, rarely *Arsenicum* or *Thuja*, and recovery followed more quickly and mildly than I expected, for I had never had a single instance of such rapid recoveries during an allopathic practice. Lastly, I ought to mention that I did not vaccinate my son, who was born in the year 1853, but administered to him, in the spring of 1855, *Vaccinin* in homœopathic attenuation (6) with the most satisfactory result, for, notwithstanding that variola was endemic in Vienna in 1855-56, and notwithstanding my removal, in 1857, to Lemberg, where variola and scarlatina were at the time epidemic, still even with this change of climate the child remained free from smallpox.

I collected several such isolated cases in my private practice in order to bring them eventually before the public, and based upon this experience I dissuade every one from the usual mode of inoculation if the life and health of his children are dear to him, for he possesses at all times a certain preventive remedy against variola, and should it unexpectedly break out he will find *Vaccinin* 6 the most potent curative remedy.

Having taken up my abode in Lemberg in 1857 I made the acquaintance of several well-known colleagues, with whom I formed a kind of homœopathic society; we met every fortnight to interchange thoughts on the most important matters of our profession and on the progress of science generally.

At the same time we determined to incorporate all the homœopaths practising in Galicia.

In December 1857 I met a homœopathic practitioner,

the late L. Karszniewicz, at a small place called Strzeliska, who informed me of certain cases of cure by homœopathy, and amongst them some that the allopathic physicians had entirely given up as beyond all hope of cure. In his district smallpox raged in 1856, and those that were attacked by it and treated allopathically for the most part died, and the others, after a tedious convalescence, scarcely attained their former state of health, while, on the other hand, those that were homœopathically treated by Karszniewicz recovered quickly and without any violent crises or tedious convalescences.

At the time of this epidemic of smallpox Karszniewicz exhibited *Vaccinum* in homœopathic potency as preventive to the still unvaccinated children, and later on allowed them to associate with the children suffering from smallpox, and yet it never happened that a child that had been thus homœopathically prophylactically treated, took natural smallpox, which proves that *Vaccinum* given internally is a *remedium curativum* to those suffering from the disease and a *remedium prophylacticum* to the healthy. This conviction I had already, prior to that, won from my own personal experience, and it happened that Karszniewicz in this country (Poland), and I in Vienna, without knowing each other, were following the same principle and attained to the same results. Furthermore it chanced that I fell in with an article from the official American journal, the *Union of Washington*, which is verbatim as follows:—

“The Consul of the United States in Rio Grande do Sul in the Brazils sent a communication to the Government of the United States from Dr. R. Landell living at Porto Allegre in the Province of San Petro do Sul with regard to the discovery of a cure for smallpox. It was in the year 1837 that Dr. R. Landell had an opportunity of making observations on variola, but at the time of the epidemic in 1842 he first used the medicine to be presently described. From this time the results obtained by him and by his son Dr. John Landell were beyond his expectations. The Secretary of the United States, General Cass, caused this manner of

treating smallpox to be published in the medical journals of the country so that the savants might judge of the whole matter.

"Dr. R. Landell dissolved the ordinary vaccine lymph that is preserved in glass tubes (not more than 4 to 6 drops) in Aq. ʒiv ad ʒvj of pure water and gave of this solution a dessertspoonful every two or three hours."

In consequence of this specific remedy, says Dr. R. Landell, a decided diminution in the threatening symptoms was observed, the kind or nature of the disease became much more mild, the pyrexia went down, as did also the delirium, hoarseness, diarrhœa and pneumonia. Said remedy prevents encephalitis, in fact all the symptoms of the disease become greatly reduced.

At the commencement of the healing process, on the second or third day, ordinary smallpox becomes transformed into a kind of varicella or varioloid. Notwithstanding the thickening and inflammation of the epidermis the pocks dry up on the fifth day. On taking this medicament on the fourth or fifth day after the appearance of the eruption the pocks seemed to become metamorphosed into a kind of vaccinal pustules and go through all the stages within ten days. Dr. R. Landell opens the vesicles twice and in a few instances thrice. In the year 1842 he treated thirty patients, eleven thereof very dangerously ill, and lost none. We must add that Dr. Landell made use of enemata during the exhibition of the medicament; he assisted the action of the bowels by means of *Ol. ricini*; as gargarisma he used a solution of *Nit. argenti* and *Calc. Chlor.*, and he further caused the body to be sponged after the fifth day with a weak solution of the chloride of lime. Lastly, Dr. Landell successfully employed the attenuated *Vaccinum* in pertussis and in convulsions.

Having now before me—1. The experience from my own practice and from that of our colleague Karszniewicz;

2. The pamphlet by Dr. Arthur Lutze, Cöthen, 1857, entitled *Die Schutzpockenimpfung völlig unnütz und verderbenbringend, aus den statistischen Tabellen der berühmtesten Autoritäten, &c.*;

3. The pamphlet, *Imfzwang und die protestation der Einwohner Württemberg's gegen Jenner's Gift und Zauber vor den Württembergischen Ständekammern im September 1868* ;

4. The English statistics ;

5. The hereinbefore-mentioned article from the *Union of Washington* ;—having these, I say, before me, I determined to bring the whole subject under the notice of the before-mentioned Homœopathic Medical Society of Galicia in order that they too might express their opinion thereon. The first speaker was Dr. Adolf Seydl, of the Imperial Austrian Army. He called our attention to the fact that he had had in the Imperial Military Hospital about 1500 smallpox patients under his charge as military surgeon during the winter of 1857-58, when variola was raging in Lemberg. Of these 1500 there were but very few unvaccinated. His experience is that, by maintaining a moderate temperature in the patient's room, by ventilating several times a day, and by allowing the use of an *Infusion of Mallow*, smallpox patients recover well enough. But in those cases, however, in which the vital forces suddenly began to wane, in which the pocks got black and putrefaction set in, Dr. Seydl ordered the patient to be washed with a mixture of water and vinegar of wine in equal parts, and internally he exhibited to the patients an ordinary allowance of light table wine, and under this treatment even very severe cases frequently got well.

Dr. Seydl further called our attention to the fact that ordinary vaccination

a. Does not protect from smallpox at all, since of many hundreds of smallpox patients by far the majority were vaccinated.

β. That a careless inoculation occasions not only the co-inoculation of foreign morbid matter, but also very frequently caused latent hereditary diseases to crop up.

Finally, Dr. Seydl regretted that he was debarred from making use of the homœopathic method of treatment in

said military hospital, inasmuch as homœopathy is not permitted in the military hospitals.

The next speaker was Dr. Gustavus Schréter, who related many important cases of variola from his own practice extending over a period of twenty-eight years. He was in the habit of exhibiting the *Vaccinum* in homœopathic potency to his patients and with very excellent results; in the course of his practice he had also very frequently vaccinated in the usual way, but in order to destroy the occult disease-germs he had been in the habit of administering for some time previous to the operation both to the child and to the suckling woman *Sulphur* in homœopathic potency, by which means he prevented both cervical lymphomata and other concurrent diseases. Dr. Schréter strengthened his position with the letter of our master Hahnemann on this subject.*

Finally, Dr. Bakody and Dr. Dobrowski advanced examples from their practice, more especially from the time of the Lemberg epidemics of 1857-58, during which they had administered *Vaccinum* to their patients in homœopathic potency and with the best results.

The meeting finally decided as follows :

1. That the inoculation of smallpox from arm to arm, and also vaccination, constitute no certain preventive means against natural smallpox, since the statistical reports from the times of epidemics show that by far the greater half of the smallpox patients had been vaccinated, and that therefore the inoculation of vaccine matter cannot be regarded as an absolute preventive remedy against the natural disease.
2. That by the process of inoculation not only foreign morbid matter, scabies, eczema, scrofula, syphilis, notwithstanding the greatest care on the part of the surgeon, may be communicated to other children, but also that occult disease-germs, being latent in the organism, may be called into activity, and thus the health and life of the child be endangered.

* *Brit. Journ. of Hom.*, vol. vi, p. 416.

3. That the aforesaid exhibition of homœopathically potentised *Sulphur* conduces to the destruction of the psoric germs and thus renders the subsequent inoculation less hurtful.
4. That the administration of the homœopathically potentised *Vaccininum* as recommended by me, with a preceding course of *Sulphur*, constitutes the best preventive means against natural smallpox.

However, inasmuch as this new prophylactic has not yet been generally and physiologically tested in the different countries, we resolved to lay the following propositions before physicians and physiologists generally in order that they may investigate the matter conscientiously and then give judgment thereon before the public.

(A) In order that the vaccine matter may be properly exhibited in homœopathic potency as prophylactic remedy against natural smallpox to non-vaccinated persons, and thus the results be easily compared with the foregoing facts, we resolved as follows :

The mode of the internal administration of homœopathically potentised vaccine matter.

For the destruction of the psoric disease-germs occultly latent in the interior of the organism (unless an epidemic of smallpox demand the immediate exhibition of the prophylactic or as a curative agent), we give the child and also the suckling mother or wet nurse, first of all, homœopathically potentised *Sulphur* during three days in the morning on an empty stomach, allow at least fourteen days' after-influence, and then exhibit *Vaccininum* 6 in the morning on an empty stomach during three days, one drop in water, or in sugar of milk, or in pills.

The consequences of this proceeding are different. In some children we observe, on the sixth, seventh, or eighth day, vascular excitement by day or by night ; in others a kind of coryza ; and in others, again, we get an eruption of sparse spots of the size of a poppyseed, or of a lentil, on

the entire surface of the body. This is an inflammatory condition of the epidermis which arises about the fifth or seventh day from the exhibition of the vaccine matter, and finishes up with desquamation of the cuticle. The red spots thus produced on the integumentary surface offer the best proof that the internally administered remedy has powerfully acted, and during a period of ten years it has not come under my observation that a child thus dynamically inoculated had suffered either from natural smallpox or from those other disturbances which so frequently follow ordinary inoculation. A natural sequence of this proposition is the following double question: α . Whether it is possible to vaccinate, in the ordinary manner, a child that has been homœopathically inoculated? β . Whether a preventive remedy of this kind, *i. e.* the dynamic inoculation, protects once for all from the natural smallpox, or from any other kind of pox, such as *variola modificata*, *varioid*, or *varicella*?

We cannot at present answer either of these questions with certainty, inasmuch as we have not yet been able to institute a sufficient number of physiological experiments to that end; for this purpose several co-operators and a considerable period of time are absolutely requisite. I can only say this much, conscientiously, that the internal exhibition of vaccine lymph in the manner first described and before infection has taken place, certainly protects from natural smallpox, which is evidently proved by L. Karasiewicz during the epidemic of smallpox in the Brzeszan district, inasmuch as the lymph administered internally to the unvaccinated children protected them from infection so completely that the homœopathically vaccinated children ate and played with those suffering from natural smallpox, but did not get it. Since then very similar cases have been observed. In my practice it happened that the inoculated mother took smallpox; her three children, however, were not inoculated, and to these I administered *Vaccinium*, whereby they were protected from smallpox.

We must therefore leave these two questions open for the present, and beg that the homœopathic inoculations may in the meantime be practised in the manner already

described, i. e. by the internal administration of homœopathic *Vaccinum*, and further that all facts relating to this subject be carefully and conscientiously collected and published. Such work will most assuredly exercise a wholesome influence on science, and on the practice of physic, and thus benefit arise to suffering humanity.

(B) Our second resolution properly concerns our esteemed allopathic colleagues, or the adherents of the rational school, as regards the before-mentioned article of Dr. Landell. His treatise ought to secure the attention of the allopathic physicians all the more as he, true to the allopathic principle, not only successfully administered to smallpox patients the ordinary vaccine lymph, which he preserved in glass tubes, in its original form, gtt. j dissolved in ℥j of pure cold water, but also made use of other remedies that are customary in allopathy. This mode of curing natural smallpox by means of vaccine lymph, is as yet wholly unknown in allopathy; particularly in severe cases is allopathy so utterly helpless, more especially when the organs of respiration and deglutition are so swelled, that the patients can hardly swallow water by drops. In order to take in the whole scope of Dr. Landell's article I determined to test its truth by physiological experiments. In the year 1859 an opportunity occurred for carrying out such experiments—I had two patients that had been vaccinated suffering from smallpox.

Angelika H—, a blondine of 17, of sanguine temperament, from healthy parents, suckled by her mother, normally menstruating, having thus far suffered from no disease, fell sick, in June, 1859, of natural smallpox. I was called in to see her just when the natural pocks were already developed; the pyrexia had increased to the highest degree; it was absolutely necessary to silence the disturbance in the circulation, and hence I gave a dose of *Aconite*. 1^x; in the course of twelve hours the pulse fell from 120 to 99 beats a minute, the pocks appeared on the skin in the most beautiful efflorescence, and transformed the

lovely girl into a monster with violent inflammation of the integumentary surface, more especially of that of the eyes and neck. I then dissolved three drops of vaccine lymph in ʒiij of pure fresh water, and of this solution I gave a teaspoonful every two hours. In the course of twenty-four hours the pyrexial heat and the inflammatory tumefaction of the integumentary surface were diminished, the variolous pustules, that were gorged with lymph, withered, and in the course of another twenty-four hours the pocks began to blanch and shrivel up; the pains in the eyes, head, and neck lessened, the appetite increased greatly; on the third day the pocks began to dry up; I ordered the exsiccated crusts to be moistened with oil, and to be then torn off. In this manner and by the sixteenth day of the attack the whole integumentary surface was cleaned, no pock marks remained. On the twentieth day of the treatment patient went into the open air, and has remained quite well until the present day, without having any trace of smallpox on her person.

W. H—, a lad of 12, brother of the foregoing, suckled by a wet nurse, vaccinated already while at the breast, had then a crusta lactea on the head, with a running from the hairy scalp, and from which until now a nasty eczema capitis remains. This lad fell sick of smallpox a few days after his sister, although I had given him homœopathically prepared vaccine lymph on the first day of the sickness of his sister as a prophylactic, yet I could not prevent the natural smallpox; the poison was probably already in the organism. Nature was determined to pour out the morbid humour into the integumentary surface.

After the first period of the disease had passed under my care I endeavoured to keep down the circulation with *Aconite*, and already on the third day there appeared red vesicles on the face and chest. After the use of *Aconitum* 1^x the pocks appeared on the whole integumentary surface. I now determined to employ *Vaccininum* 6 as specific internal remedy, and exhibited two pills dry as a dose, and then dissolved six pills in six spoonfuls of water, and of this

solution I ordered a dessert-spoonful to be administered every two hours. Three such doses were sufficient to attain the desired object.

Immediately after the first dose the pocks, that were gorged with lymph, began to soften, the reddened and swelled skin became pale, the pains in the eyes and neck diminished greatly. After the third dose brown scabs were formed, and from this point the same treatment as in the former case was adhered to. In the course of eighteen days the lad left his bed, which consisted of a mattress, a horse-hair pillow and a simple coverlet. The nourishment consisted of milk, ordinary soups, and, for drink, pure water. The windows of the adjoining room were left open all day during fine weather, but care was taken to obviate any draught. At the end of twenty days the youth went out of doors with a clean skin and in good health.

These two cases of natural smallpox—the first treated as directed by Dr. R. Landell, *i. e.* vaccine lymph (pure) was given; the second with homœopathically prepared *Vaccinum*—prove clearly that one and the same drug, in virtue of its specific relationship to the disease, produces constant results. Hence the principle of the homœopathic method of treatment, founded on physiological experiment, clearly proves that it is not the quantity, but the quality in the specific relationship of the drug, which determines the value of the remedy. Homœopathy can, according to the circumstances and the surroundings and individuality of the patient, even use a remedy in its original condition and in a certain quantity for healing purposes, provided this remedy possess the specific relationship to the disease, which principle is *de facto* demonstrated by Dr. R. Landell's allopathic mode of proceeding.

Some historical data on epidemics of smallpox.

In the first half of the eighteenth century, as shown by the history of medicine, smallpox was epidemic, malignant, and deadly; from the seventeenth century on up to the

year 1800, natural smallpox was inoculated as a preventive against the natural smallpox ; but we possess no statistical data as to the results of this mode of procedure. In the second half of the eighteenth century the epidemics of smallpox were not so frequent or malignant.

Since the year 1800, *i. e.*, after the introduction of vaccination as preventive remedy against natural smallpox, the epidemics of variola became less frequent and of a more mild character, especially since the years 1800—1825. It was hence concluded that natural smallpox was already banished from the face of the earth. Still, we must mention at this juncture that at this time the natural smallpox of cows was likewise very rare, or showed itself only sporadically.

Even the adherents of compulsory vaccination are of opinion that the pox of man, of cows, and of sheep are one and the same disease ; these diseases must, therefore, arise from the same source, and hence the more frequent or more rare appearance of natural smallpox, its malignancy or mildness of character cannot by any means be regarded as a consequence of vaccination, but rather as due to cosmo-telluric influences.

Historical data in conjunction with every day experience teach us that all human preventives of different local and general epidemics by material and spiritual means—such as leprosy, the pest, yellow fever, measles, scarlatina, smallpox, typhus, white and red dysentery, cholera and the like—have not had a constant result. To those measures that have failed in their object we must reckon smallpox inoculation. Just as the inoculation of natural smallpox lymph as prophylactic remedy was carried on from the year 1721 until the year 1800, so vaccination has been practised from the year 1800 until the present day ; thus the seventy years' war against natural smallpox has not effected a change either in the development or in the course of this fell distemper, simply because the cosmo-telluric influences cannot be overpowered, which, however, according to the fundamental laws of nature, of medicine, of science, and of common sense would be absolutely necessary if human endeavours against epidemics are to attain their object. But the Creator of the

eternal laws of nature does not alter these laws in favour of human endeavours. The epidemic pestilences arise under the influence of the cosmo-telluric laws of nature ; they go on increasing until they reach a certain height, they decrease with time, and finally disappear, and others appear in their places, just as we observe that since the cholera epidemic in the east the pest has almost disappeared or become greatly modified.

In like manner the history of the epidemics of smallpox shows us that such epidemics from the year 1721 till the end of the eighteenth century, and from this period to the year 1825 with regard to the countries invaded, have assumed a much modified character, with regard to their violence and deathrate, so much so that up to the year 1825, with the exception of here and there a few sporadic cases, not only the public, but also the medical men, were of opinion that vaccination had swept smallpox from the face of the earth. We cannot, however, deduce therefrom that vaccination is the true cause of the diminished violence, of the more seldom occurrence, and also of a smaller death-rate, at the time of epidemics of natural smallpox.

Medical science, judging in accordance with natural laws, cannot even regard vaccination as introduced into practice by Dr. Jenner as a protection against natural smallpox, since we have many uncontested facts to prove that vaccinated persons are not at all safe from the smallpox poison during an epidemic of the disease. Thus, 200 persons fell ill of natural smallpox in Berlin in March, 1858, and of these 193 were vaccinated and 7 unvaccinated. In April, 1858, 825 got the disease, and of these 728 were vaccinated and 97 unvaccinated. In like manner the proportion of the vaccinated to the unvaccinated is seen from the following table of cases to be unfavorable to the former :

		Got variola.		Vaccinated.
In Marseilles	...	40,000	...	30,000
„ Digue	...	664	...	478
„ Kissel	...	200	...	181
„ Vienna	...	6,213	...	5,217

According to these statistical figures, it is quite impossible to maintain that vaccination affords protection against smallpox; and yet not only fanatic adherents of vaccination, but also learned medical societies believe themselves justified in maintaining that vaccination not only alters and mitigates the character of this epidemic, but that it is even capable of stamping out this plague from the earth. Now, let us ask, What is the basis of this impudent assertion? It is based on statistical data which prove that anterior to the introduction of vaccination in the eighteenth century many more persons were attacked by smallpox than from the year 1800 until the present time, and that the character of this disease has again shown itself very deadly in the current century.

If, however, the matter be so, and if besides, as the adherents of vaccination do not deny, it be that natural smallpox of the human subject is the same disease as cow-pox and sheep-pox, then it behoves us to call attention to—

1. That already in the second half of the last century, and therefore before the introduction of vaccination, the epidemics of natural smallpox appeared in a much more mild form than before the year 1750.

2. That the pox epizootics showed, with regard to their appearance in greater or less intensity, the same phases as the epidemics.

3. That not only natural smallpox, but also other epidemically raging diseases, against which neither inoculation nor any other generally applicable preservative remedy has been discovered (cholera), after repeatedly appearing, gradually assumed a less fatal character, and did not spread so far.

Now, it follows from this pleasing phenomenon that the fact of smallpox epidemics having lost in intensity since they first appeared in Europe in the eighteenth century, cannot by any means be regarded as a consequence of vaccination; but it is a consequence of cosmo-telluric influences upon which epidemic maladies principally depend.

The adherents of vaccination endeavour, however, to strengthen their assertions with figures showing that

in one place there only died 4 of 193 vaccinated smallpox patients, while, on the other hand, of 7 unvaccinated smallpox patients 5 died; and in another place there were 41 deaths of 728 vaccinated smallpox patients; but, on the other hand, of 97 unvaccinated smallpox patients 21 died.

Yet these figures cannot by any means be taken as a basis on which to decide absolutely of the positive value of vaccination; for the greater or smaller mortality, as between the vaccinated and unvaccinated, is an accident depending on many circumstances, as, for instance, manner of living, occupation, poverty, individual disposition, &c., which ought to be circumstantially described and considered in order to base further affirmation thereon. Now, in order to prove that vaccination and nothing else is the cause of the diminished mortality it would be advisable to show that under otherwise similar circumstances there died relatively fewer vaccinated small-pox patients than unvaccinated ones. Hence we cannot rely on the figures obtained in this manner until it be shown that under absolutely similar conditions a greater number of unvaccinated smallpox patients die; not until this has been demonstrated can we maintain with scientific certainty that vaccination diminishes the death rate; that vaccination does not protect from smallpox is proved by the figures that I have already brought forward. The question then arises, whether vaccination is really of any use? To elucidate this question the London Medical Society, not satisfied with the experiments performed in Great Britain only, sought statistical data and opinions from learned societies of the continent; but these societies, instead of entering upon the subject in the way of strictly physiological experiments, simply confined themselves to *résumés* of statistical reports as regard the number of smallpox patients of the different periods, from which they concluded that the epidemics of natural smallpox had lost both their former fatal character and their area of distribution.

On the basis of the statistical reports sent in from all parts the London Sanitary Commission finally decided that Jenner by the introduction of vaccination rendered a

great service to humanity, but that at present it was necessary to the protection of humanity from this plague that people be re-vaccinated.

By this dictum it was admitted that vaccination is not a sufficient prophylactic against natural smallpox; certainly no thinking physician would content himself with such an uncertain preventive, since, as is seen from the hereinbefore cited figures, the vaccinated and unvaccinated are equally subject to contagion.

Granting that the mortality is really smaller amongst the vaccinated than amongst the unvaccinated, yet it remains an incontestable fact that the vaccinated, although in a relatively smaller number, nevertheless do die of smallpox. And even if vaccination afford a greater guarantee of recovery, yet the very danger of still contracting this disease, together with all the sad sequences, must determine the thoughtful physician to seek another and more efficient prophylactic remedy.

The vocation of our science is therefore to be continually instituting physiological experiments, especially so as vaccination does not protect from natural smallpox. Moreover the vaccinated child often gets exposed to other infection by means of such inoculation, inasmuch as even the most prudent physician or surgeon, no matter whether the inoculation take place from arm to arm or by means of vaccine lymph, cannot possibly recognise whether the child from which the vaccine lymph is taken has any occult disease-germs latent in his organism.

Natural pocks do not occur so frequently in cows as is generally thought, and natural vaccine lymph would hardly suffice for a few thousand children of the rich; in order to circumnavigate the difficulty most medical men inoculate the cows with lymph from apparently healthy children, then they take the lymph from the vaccine pustules of the cow and call it vaccine lymph! What guarantee have they? Experience teaches that in this manner thousands of children get inoculated with eczema, plica polonica, scrofula, scabies, and even venereal diseases, which sooner or later and sometimes all through life bore about in the organism of the vaccinated

child that at origin had no such taint, and he who has had an opportunity of himself seeing to what hands the obligatory vaccination of the children is entrusted, will no doubt be astonished that even worse results have not followed.

Now I return to my principal task. While I rely on the foregoing facts and figures I take the liberty of calling the attention of my honorable medical colleagues to the practice of Dr. R. Landell, then to my experience and to that of the late Karszniewicz, and likewise to the physiological inoculation experiments of my friend the Chevalier de Czaykowski on his sheep, and also to make the following practical proposals :

1. That all my colleagues, both allopaths or adherents of the rational school, and homœopaths, undertake physiological experiments by which alone we can determine whether the internal administration of *Vaccinum* or *Variolinum humanum* either after the manner of Drs. Landell senior and junior, or in homœopathic potency according to the manner in which I have carried it out these ten years, and which the late Karszniewicz likewise followed with the desired result both as preventive and as curative remedy, is really useful in every epidemic under all possible hygienic conditions and social relations, and adapted for every individuality, age, gender and temperament.

For such physiological experiments we require only pure original vaccine lymph, further, lymph from an entirely healthy human subject, and good will in order to make observations independently of preconceived notions and to observe and publish the resulting facts. From a collection of reports by practical medical men, science and the medical art will obtain a sure basis for a final decision, whether the original vaccine lymph or the *Variolinum humanum* as given internally by Dr. Landell may be regarded as a prophylactic and curative remedy against natural smallpox or not ?

2. My second proposal is that my homœopathic colleagues may exhibit the original vaccine lymph or the *Variolinum humanum* in homœopathic dilution to persons not already vaccinated.

Such physio-pathological experiments are not less important than those mentioned in my first proposal. All the conditions and reservations there mentioned must be observed here equally conscientiously, so that the importance of dynamic inoculation may be rightly and correctly judged of both for the purposes of science generally and also for those of the medical art.

3. My third proposition is that landed proprietors and sheep-breeders institute physio-pathological experiments by exhibiting homœopathically potentised sheep-pox lymph to such sheep as they destine to be inoculated, and that in the manner already described by me and already put into execution by my friend the Chevalier de Czaykowski on his flocks of sheep from 1862—1871.

I particularly beg my colleagues above all things for physio-pathological experiments, which, being registered in a sufficient number and during a sufficient space of time, may serve our learned societies as basis for a scientific determination as to—whether natural vaccine lymph or variolin administered internally in homœopathic potency may be regarded as a universally certain prophylactic remedy against natural smallpox, and thus capable of taking the place of Jennerian inoculation.

In order now to familiarise my homœopathic *confrères* with my homœopathic inoculation of children I shall communicate—

1. My internal exhibition at first of *Vaccinum* and later on of *Variolinum* according to the homœopathic principle.

2. And then the inoculation experiments of my friend Isidor de Czaykowski, landed proprietor at Jarostawice in the Zloczow District of Galicia, on his flocks, by the internal administration of sheep-pock's lymph as carried on by him from 1862—1871.

I. *The homœopathic inoculation of children as a trustworthy preservative from natural smallpox.*

Since 1850, when I became a homœopath, I have left off vaccinating children from arm to arm, and given them homœopathically potentised *Vaccinum*, and in later years the homœopathic potentised *Variolinum humanum*, which has much more certain effect; I give them in the 3rd trituration and 6th dilution as a sure prophylactic of natural smallpox.

Enlightened by sad experience in my allopathic practice (of twenty years) I resolved not to vaccinate my only son, born in October, 1853, but to give him *Vaccinum*. Since that time I have had under my care 400 homœopathically inoculated children and watched their career as much as was possible, with the following result:—A girl was homœopathically inoculated at the age of four, and when she was seven she had a copious varioloid eruption, which went off under homœopathic treatment without leaving any scars. A second girl, homœopathically inoculated at the age of three, got the black variola and died, whilst her brothers and sisters took internally *Vaccinum* and remained unattacked by the disease. During the present epidemic of smallpox in Vienna two children homœopathically inoculated by me in Lemberg took ill of smallpox and were treated successfully by telegraph with *Acon.*, *Apis*, *Merc.*, and *Variolinum*; the two other girls had been vaccinated in infancy, they got *Variolinum* and had no attack of natural smallpox.

My mode of performing homœopathic inoculation was originally as follows:—I first procured some primary cowpox, made the 1st, 2nd, and 3rd triturations in the usual way and then the 4th, 5th, and 6th dilutions, with the last I moistened the globules. But after one girl who had been so inoculated got, two years subsequently, a severe varioloid, and another died of black smallpox, I employed *Variolinum*, which I took from a strong unvaccinated girl

of eighteen, of healthy parentage, who was affected by the natural smallpox. I made the triturations and dilutions in the usual way and moistened the globules with the 6th dilution.

In order to counteract possible psora the child to be homœopathically inoculated gets first for three days, every night and morning, a dose of *Sulph.* 30. After this has acted for four to six weeks, if no skin disease or swellings of the glands appear, I give for three days, every night and morning, three globules of *Variolinum* to the child alone or to the mother and suckling both. The child should not be exposed to damp, chills, or draughts, and should not be bathed, but may walk or be carried out of doors in good weather, and its food should be simple but good.

On the seventh or eighth day the inoculated child undergoes a change, sometimes there is high febrile heat; in such cases I give a few powders of *Aconite*. Then or later there appear beneath the epidermis several large, red pimples which itch, grow pale during the following days, and the outer skin peels off on the eighteenth or twentieth day. By this time the homœopathic inoculation process is complete. I direct the new formed epidermis, which is easily chilled, to be rubbed from head to foot for two successive evenings with poppy oil. On the twenty-first day the convalescent may get up without fear [has he been all those days in bed?], and after a few days later a tepid warm bath.

Such accidents as sore-throats are seldom seen; when they do occur they may be treated in the usual way. The inoculated person must not be too warmly clad, as that rather predisposes to a chill. I could not advise children with crusta lactea, tinea, or other skin diseases or glandular affections to be inoculated; these affections should first be cured by homœopathic remedies.

If smallpox is already in the locality or in the house there is no time for the preliminary sulphur treatment, the *Variolinum* should be given at once.

When called to patients who are already sickening for natural smallpox I give *Apis* 30 and *Merc. sol.* 30 alter-

nately, every hour during the day, and if there is febrile heat in the evening one dose of *Acon.* 30, and I continue this treatment from three to five days. If the variolous pustules are already full I give *Variolinum* 6, and to torpid subjects the 3rd trit. After the second dose the pustules commence to wither, some dry into scabs and fall off without leaving cicatrices. I have the room aired twice a day; allow only light covering for the patient to permit perspiration. The diet consists for the first eight days of milk, barley, rice, or sago-water, beef and chicken tea unseasoned, and for drink fresh water with sugar or raspberry juice. When desiccation commences I allow a more strengthening though easily digestible diet.

II. *Sheep-pox virus homœopathically prepared and given internally as a preservative against epidemic sheep-pox, instead of the ordinary inoculation of the virus on the tail.*

The lymph is taken from the pustules on the eighth or ninth day and prepared either by trituration with milk-sugar or by dilution with spirit, in order to make the further dilutions up to the 6th dilution in the ordinary manner according to the centesimal scale.

When it is desired to give the preservative to a flock of sheep we take as many grains (qu. minims?) of the 6th dilution as there are sheep, put them into a bottle and add as many ounces of distilled or snow water, cork it up and shake it well for five minutes. If the number of sheep is not very great, to each a spoonful of the medicine is to be given on three successive mornings before they have eaten. Two hours later they may be fed and allowed as much pure water as they like. The sheep so treated are to be kept in an airy pen for at least four weeks. When the flock is very large a quantity of the 6th dilution corresponding in grains to the number of the sheep is to be put in a trough of water well mixed and the sheep led to the trough in detachments, so that each drinks of the fluid. This is repeated on three successive days; food and drink as in the former case.

The best season for this operation is, if the weather is favorable, the latter half of March ; if it is very cold the operation may be delayed until the beginning of April. The homœopathic inoculation may also be performed in summer, care being taken not to drive the sheep to pasture in rainy or very hot weather, when they should be kept under cover.

When an epidemic of sheep-pox breaks out in a flock the healthy sheep should be at once removed from the diseased and the prophylactic given in the manner described. The diseased sheep should be retained in the original pen and should get *Apis* 6 and *Merc. sol.* 6 in alternation every two hours for three days, or *Aconite* if they are feverish. As soon as the pocks are well developed they should get the homœopathic preparation of sheep-pox virus, a grain night and morning for three days, whereby the disease is rendered very mild.

I do not recommend the administration of the prophylactic at the lambing season.

M. von Czaykowski, a Polish landed proprietor, made extensive trials of the internal administration of diluted sheep-pox virus in his flocks. The following is an abridged account of these trials :

In 1850 his sheep had the natural sheep-pox. At that time he knew nothing about Dr. Kaczkowski's homœopathic inoculation, so he inoculated the still unaffected sheep with sheep-pox virus in the usual manner, but without any good result, for they all got the natural pox, two thirds of them died and the remainder were left in such wretched conditions that they were utterly useless for breeding. It was only after seven years that he was again in possession of a healthy flock.

In 1861 he inoculated 500 sheep in the usual way with sheep-pox virus. The inoculation succeeded, about ten head were covered with sheep-pox-like virus pustules, especially about the muzzle, under the eyes, and in the flanks ; they were very weak and fevered. Being by this time familiar with homœopathy he gave these sheep *Acon.* and *Arsen.*, and afterwards *Thuja*. He only lost one. But in

spite of the inoculation most of the sheep were attacked in 1862 by sheep-pox of a very mild description, and none died. The medicines he used were *Acon.*, *Arsen.*, and others for the lameness of the fore feet.

He then resolved to make a trial of the comparative merits of the ordinary and the homœopathic inoculation.

He divided the nine months' old lambs into two sections. Forty-eight of these were inoculated in the ordinary way on the tail, with success. Although some of them showed the characteristic pustules they all remained in good health, ate and drank as usual, and required no medicine.

Forty-two were subjected to the homœopathic inoculation, two drops of the sixth decimal dilution in half an ounce of water for three successive mornings. They had the following symptoms:—Between the tenth and fourteenth day, when the pustules were fully developed in those inoculated in the ordinary way, these homœopathically inoculated sheep had moderate febrile heat over the body, chest, and flanks, the eyes were red, the eyelids swollen, each had from two to ten pocks as large as a pea about the mouth, under the eyes and on the jaw, and some small swollen glands in the flanks. The pocks exactly resembled the pustules of sheep-pox. On the eighteenth or twentieth day the pocks became brown, and the epidermis round about them scaled off. Only one of the lot required medicine, as its pustules were more numerous and accompanied by considerable heat. *Acon.* and *Arsen.* alternately soon put it to rights.

The homœopathically inoculated sheep were marked in order to see if they were thoroughly protected from the natural sheep-pox by the homœopathic inoculation.

M. von Cz. had an opportunity of testing the prophylactic and curative powers of the homœopathic inoculation method in October, 1862, when a neighbouring country gentleman sent him word that the natural sheep-pox had broken out among his flock, and had already killed a few. As M. von Cz. was unwell he sent his shepherd who was familiar with both methods of inoculation.

The flock consisted of from 400 to 500 head; of these

75 had the natural pox. To them were administered two drops of the 6th dilution of sheep-pox virus in an ounce of water morning and evening; 60 recovered, 15 died. At the same time the shepherd inoculated the remaining 380 head on their tails. After ten days it was found that only 150 of them had taken the inoculation. So the remaining 180 got the 6th dilution of sheep-pox virus. Before the effects of the homœopathic inoculation could be developed some of the sheep had the natural pox, but of moderate intensity.

According to the proprietor's account he lost 50 head of sheep from the disease. Of the sheep attacked before commencing the treatment 7 died. Of the 75 affected with natural pox and treated by my shepherd 15 died. Of the 150 in which the ordinary inoculation succeeded 5 died. Of the 180 to which the diluted virus was given internally after the failure of the inoculation 23 died; total 50 head. The deaths of the 23 head out of the 180 may be accounted for by the fact that the flock was already deeply infected by the natural pox, as was quite evident from the circumstance that so many were incapable of being artificially inoculated. On the other hand, the outbreak of the natural pox was accelerated, as all the 180 by the ninth day showed modified sheep-pox pustules on the flanks, round the mouth, and on the eyelids, but they were lively and ate and drank well. All this proves that the internal administration of diluted sheep-pox virus had a decided effect on the morbid powers of the sheep-pox; it makes it assume a milder form, hence in an epidemic it should be used both as a curative and as a prophylactic remedy.

In 1863 M. von. Cz. made another experiment. He divided his nine months' old lambs into three flocks. On the 27th March he inoculated 42 head in the ordinary way. It took in all and ran a normal course.

On the 27th, 28th, and 29th March he gave a drop of the spirituous dilution of sheep-pox virus made in 1862 to 30 head; and on the same days he gave to other 30 head a drop of the dilution made from the trituration. In all these the eruption appeared on the sixth day. The febrile

heat was moderate ; the pustules showed themselves under the epidermis in the flanks the size of a millet seed, on others they appeared about the mouth and on the nose and became the size of a pea in twenty days. The lambs remained living and took their food well. Those treated with the trituration had smaller pustules but more numerous, whereas those which got the virus prepared with spirit had the eruption scarcely perceptible beneath the epidermis, but they had redness in the flanks and round the eyes and mouth. Heat inconsiderable, the health not affected ; only one had great eruption of the head with much swelling of the throat, nose, and eyes, and died.

The sheep-pox was raging in the neighbourhood, and though the lambs treated as above often mingled with the infected flocks none of them ever took the natural sheep-pox.

In 1864 M. von Cz. made some more trials by the homœopathic inoculation of sheep-pox virus, varying them by giving less of the virus or more according to fancy, and he obtained the same results with slight variations. Thus he found that the 4th dilution made of fresh virus acted more quickly than the 6th made two years previously. Only one lamb was seriously ill, and it recovered after the administration of *Acon.* and *Arsen.*

In 1866 he made other experiments and found that the 9th dilution was as successful in producing the modified disease as the other dilutions, and that one of the lambs to which it was administered had very severe symptoms which yielded to *Aconite*. This year he inoculated 40 head in the ordinary way, but it only took very feebly in some and not at all in 10. To these the 9th dilution was administered and with the best results.

In 1867 M. von Cz. varied his experiments by giving to separate lots of lambs the 2nd trituration, the 3rd dilution, and the 4th dilution of the sheep-pox virus, and in all the modified disease was developed without much difference.

In 1868, 1869, and 1870 he continued his trials with nearly precisely similar results.

The conclusions drawn by this intelligent country

gentleman from his numerous experiments are the following :

1. That the diluted sheep-pox virus prepared by trituration or tincture protects sheep from natural sheep-pox which may be epidemically raging, if administered in time to healthy sheep before the natural disease has invaded their pens, although it may be ravaging the neighbourhood.

2. That the preservative may be given at any season with the best effects.

3. That the virus given in various dilutions causes a minimum amount of eruption resembling the natural sheep-pox in the flanks and round the mouth, generally on the ninth day, but often much later.

4. That this homœopathic inoculation process is not attended by any considerable amount of fever, loss of appetite, or weakness or subsequent illness.

5. That the virus in homœopathic dilutions or triturations will keep good for years without losing any of its power. In this it has an advantage over the ordinary method of inoculation in which fresh virus must be used. And it is more efficacious than the ordinary inoculation, for whereas sheep inoculated in the common way are often attacked by the natural pox, those which have been subjected to the homœopathic inoculation are not liable to have the natural disease.

6. That the diluted virus is the best remedy for the natural sheep-pox when the eruption has appeared, as it makes the disease run a mild course without any considerable secondary affections.

A PRACTICAL INVESTIGATION OF THE EFFECTS
OF THE PREPARATION KNOWN AS LIQUOR
SODÆ CHLORATÆ.*

By ROBERT T. COOPER, M.D., T.C.D.

(Continued from Vol. XXX, p. 691.)

(*Labarraque's Disinfecting Fluid.*)

WE have thus far reported some uterine cases, and they are few amongst many, in which this chlorine solution has shown itself to be a very valuable drug indeed; it would be inconveniently tedious to make long comments upon these cases, or to mention all the inferences we draw from them, and that practical experience has more or less fully corroborated; it will be, we think, sufficient to make some passing observations upon them as well as upon the action of some of the alkalies and alkaline earths preliminary to giving a proving of the drug.

Were a drug possessing the qualities of Labarraque's solution to be found in the vegetable kingdom, no matter how complex its composition, it would be welcomed by all homœopaths; then why demur in admitting it, artificial though it be, among our remedial agents? We name as its appropriate sphere those diseases only in which we know it to be of proved efficacy, and we need hardly say that no physician would be justified in allowing sectarian prejudices to circumscribe or to otherwise injuriously interfere with his means of combating disease.

With reference to our alkaline remedies it is not a little remarkable how strikingly hepatic harmonise with uterine symptoms in the provings; we can trace, firstly, a resemblance of one alkali towards another, and then we can see how such class of symptoms as recent research has shown ought to be produced are just such as Hahnemann's untutored provers

* In order to conform to our adopted nomenclature we must look upon this preparation as the mother tincture of *Soda Chlorata*, and prepare dilutions accordingly.

described ; for example, in the case of *Natrum muriaticum*, we get a "*pressing and pushing from the side of the abdomen towards the genital organs early in the morning ; she had to lie down quietly to prevent a prolapsus uteri.*" Now, any one at all conversant with uterine sufferings knows how often "the side of the abdomen" is looked upon by women with prolapse as a weak point ; the side of the abdomen therefore is described as being at fault ; but the side of the abdomen in the *Natrum* proving is low down, it is the inguinal region, and accordingly we find "*the inguinal region is painful when getting up from a seat, and when walking fast ;*" and turning then to the rectum we see recorded, "*after stool, violent unsuccessful tenesmus,*" and "*sore hot anus,*" just the symptoms we know to be often associated with uterine distress of any kind, but particularly with prolapse ; and then we have that very usual form of uterine colic, "*frequent pinching every day in the whole of the abdomen, the sides of the abdomen, and towards the small of the back ;*" pain in the abdomen as from a load, which was felt when walking," and then higher up ; "*pain as from bruises in the left half of the chest, when stooping or taking an inspiration, not when touching the parts.*" "*Pressure with stitching sensation in the left hypochondrium, mostly when walking fast.*" "*Boring, with pressure in the left hypochondrium, and afterwards dull gloomy headache,*" and then a plentiful supply of symptoms from the hepatic region—violent aching, stiffness, tension, pinching pain, drawing pain, stitches, scraping, and all those varieties of sufferings that it is so difficult to torture a patient into an accurate description of, but all showing that the *Natrum muriaticum* acts prominently upon the liver ; and, besides all these, we get the liver's portion of the back acted upon, "*Violent pain, as if bruised, in the back and between the scapulæ, &c.,*" "*drawing pain in the back from below upwards*" (showing rectal, probably combined with hepatic and uterine derangement), pain in the back, as if broken, pain as if bruised in the scapulæ and hips, and such like ; while, turning to the head, we get "*fulness in the head, pressing the eyes out as it were,*"—a symptom that, especially when it occurs on

the left side, is often either hepatic or uterine ; and, also, the well-known uterine indicator, "short burning in the top of the head," "stitches in the vertex with burning." We have known a few doses of the 12th dilution of *Natrum muriaticum* to be followed, in a nervous patient, by violent spasm-like pains at the neck of the womb.

Meyer ascribed the chief effects of *Sepia* to the production of portal congestion ; now, is there any connection between its hepatic and its uterine action ? Tilt states,* and, indeed, everyday clinical observation teaches, that congestion of the liver is a very frequent accompaniment of disordered menstruation and disease of the womb. "Dr. Butler Lane has well explained that the reaction of these organs, one on the other, depends less on their nervous sympathy than on the fact that the veins of the uterus communicate with the portal system, so that a sudden check of the uterine flow may congest the liver and spleen ;" hence we may infer that the uterine action of *Sepia* is greatly due to or at all events intimately connected with its hepatic disturbance. Bearing well in mind this intimate relationship between the liver and the womb, we proceed with remarks upon the alkalies, grouping together the *Carbonate* and *Muriate of Ammonia*, the same *Salts of Soda* and *Magnesia*, to which might be added the *Carbonate of Baryta* and of *Lime (Calc. carb.)*.

We would refer in starting to the cases quoted by Peters in Snelling's *Jahr*, under the heading of *Acetate of Ammonia*.

The first of these is a case of too frequent menstruation, with emaciation, cough, vomiting, and oppression on the chest, where the Mindererus' spirit caused a gradual diminution of the discharge until a complete cure was effected in three months. The other was where the neck of the womb was hot, soft, sensitive, and the slightest touch caused bleeding. These cases remind me of that reported at p. 689 of this Journal, cured with the *Liquor Sodæ*, where the muscles were relaxed, weak, and the whole system hydræmic. But it is not at all certain whether or not

* *Uterine Therapeutics*, p. 315, 3rd edition.

the *Acetate of Ammonia* be a useful uterine remedy; probably it exerts some specific effect upon the womb, influencing, like the *Hydrochlorate of Ammonia*, the liver as well. It is thought to resemble *Acetic acid* in its action upon the biliary and urinary apparatus. Many of the cures of acid indigestion effected by alkalies are mere examples of their power to modify the hepatic engorgement that led to a hypersecretion of the acid elements of the gastric juice.

In jaundice due to congestion of the liver, or sudden suppression of the biliary elements from fright or overpowering mental emotions, the *Hydrochlorate of Ammonia* stands foremost among the remedies used in allopathy (Anstie). In neuralgia, too, it is esteemed by some as possessing specific properties, but it appears to me that the neuralgic pains it removes are not of so marked a periodic and paroxysmal character, as are the pains of *Arsenicum*, *Quinine*, *Sulphur*, &c. Seeing that medicines often affect the womb through the medium of the liver, it is not to be wondered at that the *Hydrochlorate of Ammonia*, where it is most used, namely, on the continent, has acquired the reputation of being serviceable in chronic uterine ulcerations.

We take from our group the remedy whose action most resembles that of *Liquor Sodæ*; *Magnesia muriatica* is not alone allied to it in being a compound of *Chlorine*, but even many of their dynamic effects are very much alike. For instance, among the protean symptoms found in connection with allied uterine and hepatic derangements must be named the symptoms of a *tearing, like the scraping of a knife, is felt upon the scapula*; this we have removed with *Muriate of Magnesia*, the concomitant symptoms being a pain at the apex of the heart, with pricking and shooting as from needles and pins, and a sensation at the left scapula as though a knife were hacking at the bone, along with which existed uterine disturbance, and a red sandy sediment in the high coloured urine. Precisely the same shoulder pain, only occurring on the right side, was among the symptoms of a remarkable case, cured by *Liquor Sodæ*, of hepatic disturbance, from which we gather that

this symptom is a keynote for both remedies. Although we do not get anything more like it in *Magnesia's* proving than "a violent tearing in the scapulæ," taken in connection with the high coloured urine and the pain at the apex of the heart, it leads us to a congested condition of the left lobe of the liver. (*Vide* Noack and Trinks; remarks on *Magnesia muriatica* in the preface to its proving: this is most important.)*

CASE 7.—The *Liquor Sodæ* case we must give in full; it occurred in a woman of about forty-five, who presented all the appearance of one suffering under malignant disease; there was a dull, lustreless, circumscribed blush on the otherwise pale sunken cheeks, and she presented the features of one who had borne with a great deal of pain; she had suffered for two years, and had had much medical advice. The seat of pain was confined to the hepatic region, where there was felt a sense of vacuity, with weakness and soreness, obliging her to press up against the ribs, and this she could do to a considerable way, as if there existed an actual hollow there. This hepatic distress was much worse when the bowels were confined, and she dreaded the idea of having to strain at stool, and to avoid this was constantly resorting to aperient medicines. Coexistent with, and simultaneously increasing, was the sense of scraping in the scapula.

On getting this description of her symptoms, and observing her peculiar distressed look, I formed a very poor opinion indeed of her case, but experimentally ordered the *Liquor Sodæ Chloratæ*; the relief that followed was astonishing, the sensation in the side seemed to improve with each dose, and though she had a more than usual objection to its taste, she looked forward with delight to the time for

* Last week I met with a similar case in a woman of 68, where, along with the scraping, which had been present for a year, there was great physical and mental depression, constant palpitation of the heart aggravated immediately after eating, sharp darting pain under left breast, causing a suffocative feel and obliging her to have the windows thrown open in order to get breath, scanty and high-coloured urine and dark circles round eyes. The scraping in this case affected both shoulders, but principally the left, and was described as a scraping "at the lower edge of the left blade-bone." Observe, in both instances there was a sharp pain at the apex of the heart associating itself with the scraping in the scapula. This might be worth working up.

taking it. What is still more satisfactory is, that it also overcame the extreme nervous state to which she had been reduced ; she had not been able to endure the sound of even her own children's voices, but after taking this harsh sounds were not at all unpleasant ; her bowels, too, acted freely, and *her appetite for breakfast*, which had been extremely bad for months, became quite restored ; the void in the liver (was there contraction of its substance?) filled up, and the hepatic region became firm and unyielding to pressure. Altogether the case is, I consider, a very great triumph for the *Chlorinated Soda*, and suggests the possibility of its taking the place of some of our principal muriated mineral waters in the treatment of chronic hepatic disorders.

The compounds of *Chlorine* are time-honoured specifics for liver disease, the *Hydrochlorate of Ammonia*, *Hydrochloric* and *Nitro-Hydrochloric* acids, *Bichloride of Mercury*, need only be named to show this. Wallace has written a work bearing date 1822, on *Researches respecting the Medical Powers of Chlorine, particularly in Diseases of the Liver*. Pereira states that Wallace recommends *Chlorine* in diseases of the liver, not attended with active inflammation ; he used the warm chlorine bath and ascribed the benefit produced by it as in part referable to the heat employed, in part to the irritant effect of the *Chlorine* on the skin, and in part to the specific influence of the *Chlorine* on the liver (vide *Pereira's Materia Medica*, vol. i, art. "Chlorine," p. 384). Wallace's custom was, I believe, to subject the region of the liver to a douche of chlorine vapour which caused acute irritation followed by an eczematous eruption.

The high opinion entertained by Indian physicians of the nitro-muriatic acid baths in hepatic disorders is well known and need not be repeated.

Given a remedy congesting the portal veins and we shall have congestive symptoms as the effect of it in both the abdomen and pelvis ; it will become a question not simply of its acting upon the liver and rectum, but of what nature are the symptoms produced by it, and how, in accordance with accurate homœopathic rules, are we to

recognise the maladies appropriate for it? The solution to this is the more difficult from the *Liquor Sodæ* acting upon the lower part of the spinal cord, the central ganglia, as well as the peripheral twigs; it occasions neuralgic as well as myalgic and congestive symptoms; our only hope, therefore, is that in pursuance of this investigation the cases cured may indicate what symptoms are peculiar to it. Undoubtedly it would have been less confusing to have taken up the subject of *Chlorine* itself in preference to this compound, but our excuse must be that the facts did not lead us in that direction.

Sulphur, *Iodine*, *Bromine*, and *Chlorine*, much resemble each other in their abdominal symptoms; of these, the first, namely, *Sulphur*, possesses wonderfully slight power over uterine congestion, considering its influence over that of the pelvis generally and its power to modify abnormal menstrual functions.

Where *Chlorine* is manufactured it is said that the operatives are particularly liable to acidity and other gastric complaints; absorption of fat is also an effect observed in the manufactories of Glasgow, Manchester, and Belfast; the persons subjected to its influence become *emaciated*, and this emaciation is a primary effect; it is, I know, one of the first symptoms observable when *Liquor Sodæ* begins to act injuriously.

We may characterise the condition of body produced by *Liquor Sodæ* as one of *desiccation*, especially noticeable upon the mucous tracts, the catarrhal state which it also produces being, to a great degree, reactionary and chronic, the desiccation primary and more acute. This *tabes sicca*, with tendency to acidity and gastric distress, will call for *Chlorine* or its compounds; where a copious discharge is thrown off from the mucous membranes other symptoms indicating a larger dose can be borne, and this is why a more material dose is required in uterine congestions, these being generally associated with the leucorrhæal discharge.

In the next case the mucous membranes were particularly dry, and felt, to the patient, hot and burning, and hence, perhaps, the reason for the aggravation.

CASE 8.—Mrs. D—, æt. 57, a crusty old dame, who had attended the dispensary more or less regularly for two years, and had been plagued during this time, and many years previously, with anomalous abdominal symptoms, which medicines seemed incapable of removing; such, for example, as a persistent pain in the right hip often bearing round to the left that prevented her being able to stoop, and a feeling of bursting all over the body, great irritation of skin, palpitation of heart, nervous tremblings and headaches, while sickness on rising from bed in the morning, or rather “a hawking up” and a forcing down and soreness in the rectum troubled her; these symptoms shifted about a good deal, but were partially relieved by treatment. Amongst the medicines used were *Arsenicum*, *Alumina*, *Argentum nitricum*, *Sulphur*, *Bryonia*, *Petroleum*, *Carbo animalis*, *Sepia*, *Hydrastis*, *Mezereum*, *Cuprum sulphuricum*, *Kali hydriodicum*, and *Magnesia muriatica*, a goodly list, but none had any striking effect. She left the dispensary improved and returned in about six months, and then I was induced, from having observed the action of *Liquor Sodæ*, to prescribe it; the following symptoms being present—Burning heat and fulneas in the vagina, with severe scalding when urinating, vesical and rectal tenesmus. The first effect was to make her feel as if it went through her; she felt it lighting up the whole system, it caused a soreness in the lower part of the abdomen and sensation as if bloated, and an intense pain on pressing her hand without much force over it; by the second day this distension had travelled up to round the hypochondria, which became so tender that she had to loosen her clothes, but, apparently, there was no actual swelling. Her knees felt too weak to support her body, she trembled all over, the lower part of the back too became excessively tender, and the burning in the vagina reached an unendurable pitch; the bowels felt as if in a ferment, without, however, any action, and the appetite quite fell off.

Here, then, we had palpable aggravation pointing to profound disturbance of the peripheral twigs of the sacral, lumbar, and hypogastric plexuses of nerves; the sensorio-

motor functions were evidently interfered with. The lower abdomen, the parts in the pelvic region, is, as we may see, the first to be attacked. This deserves particular attention, as *Liquor Sodæ* seems to play with great effect upon the lower part of the spinal cord and the parts supplied by it; all of the above symptoms are characteristic of the drug. That sense of tenderness in the lower part of the back on either side of the spine is frequently present in pelvic congestions; the trembling all over, the weakness of the knees, and the vaginal burning point in the same direction, and the last shows its desiccating property.

After this the case went on to a favorable termination, the hip pain ceased, so did the vesical and rectal tenesmus, and the vaginal burning was leaving when we last saw our patient, a fortnight after prescribing the chlorinated solution, the last week of which was passed without medicine.

It is sufficiently accurate for clinical illustration, and it will facilitate a general review of the provings, to say that the liver holds the same relationship to the interscapular space that the womb does to the sacral region; the shoulders, arms, and forearms will then correspond to the hips, thighs, and legs. Regarded in this light we find, starting from the liver, that *Magnesia muriatica* removes "an aching in the liver even when walking, or feeling the part, greatest when lying upon the right side;" that it removes also "an old painful hardness of the right side of the abdomen," and that it produces "burning and tensive stitches in the right hypochondrium," and that the other members of our group, likewise, either produce or cure congestive hepatic disorders. Then, correspondingly, we get "pain as from bruises and burning *between the shoulders*," "tearing in both scapulæ," "in both shoulders," and what we must notice particularly, it having both produced and "being found especially useful for" the condition that "both the lower arms go to sleep early in the morning after rising." We will give especial consideration to a corresponding symptom of the lower limbs, and in the meantime wish it to be observed that all the members of

our group agree in producing paralytic symptoms, more or less distinctly marked, of the upper limbs. We get, too, a form of colic very often present in the combined uterine and hepatic disorders; "spasms in the abdomen, with violent pressing upon the rectum and genital organs, accompanied by low spirits and ill humour" and "considerable distension of the abdomen extending even into the throat, with interception of the breath and anguish from afternoon till night;" this we find present in many cases of uterine weakness; from afternoon till evening is, therefore, a usual time for the symptoms to aggravate, and this period of aggravation must be distinguished from that of the early morning, which is essentially spinal and unlike the other alleviated by motion.

Add to these what is not so perfectly delineated in the proving of *Magnesia muriatica* as in that of other members of the group—myalgic pains in the nape of the neck—and we complete the resemblance in the nature of their disturbance of the nervous ganglia of the upper extremities with that exerted upon the lower, where the womb is so congested as to cause bearing-down and labour-like pains, pain in the small of the back, hypogastric tension, hip pain, paralytic condition of the lower limbs, vertical, semi-lateral, and frontal headache, gastric irritability, and all the well-known concomitants of this commonest of disorders.

We must leave *Baryta carbonica* with the hepatic region, and *Borax* with the uterine.

A remarkable symptom of the *Liquor Soda*, and one that must be regarded as common to it and other spinal irritants, and particularly *Nux vomica*, *Strychnine*, and *Ignatia*, is that this patient is hardly able to walk in the morning after rising from bed; he feels his legs heavy and as though he were tired instead of being rested by the night's sleep, and though the feeling lessens after exertion, he feels at first a disinclination to attempt movement. It is very commonly felt in uterine congestions, and shows that the long-continued peripheral irritation has had its effects upon the central ganglia, and that the irritation

transmitted from the congested womb has diminished the reflex action of the cord; it also serves to account for a number of peculiarities in connection with uterine disease; for instance, such sufferers frequently complain of not having a good appetite for breakfast; that supper is their best meal; that they require some stimulant to enable them to dress, that they feel giddy and are sick on getting up in the morning.

It is a most valuable symptom, and will often enable us to detect incipient spinal disorder; besides, in obscure cases, it furnishes a clue to the *class* of remedial agents from which our selection must be made.

Aitken (*Science and Practice of Medicine*, vol. ii, p. 235, sixth edition) comments upon it thus:—"One marked symptom of congestion of the membranes, referred to in a case related by Dr. Meryon, is the difficulty experienced in walking on first arising after a night's rest. I have observed this as a *constant indication of spinal congestion, and it may be temporarily induced by Strychnine or Nux vomica.*"

Again, at p. 259, referring to the treatment of paraplegia, Aitken advises, on the authority of Brown-Séquard, that *Strychnine* ought to be suspended "whenever it produces spasms, or even numbness of the feet on getting out of bed in the morning."

We have no substance whose action is so definitely or uniformly marked, as is that of *Strychnine* (Fraser); it acts in every case upon the spinal cord, it congests it, and destroys its reflex action, and agreeably to what we learn from the above symptom, the morning is the time of day fixed upon for aggravation. The spinal disturbance is then greatest; hence, if *Nux vomica* (or *Strychnine*) be given at this period the result will be stronger than if either be taken in the evening, and hence, to quote Hahnemann's words:—"In sensitive persons especially, the exhibition of *Nux* in the morning excites unpleasant sensations, inasmuch as the most frequent and violent symptoms of *Nux* make their appearance in the morning."

This peculiarity is not so much medicinal as physiological,

and belongs to congestion of the spine (Aitken) arising from any cause, and so it is that we find that morning exacerbation to be more or less a common feature of all spinal irritants.

CASE 9.—As illustrative of these remarks such cases as the succeeding may be studied. Eliza P—, æt. 36, a thin, pale-complexioned woman. For three months has had a very bad cough, with tight feeling across the chest as from a weight which keeps her from sleeping, and when she draws in a breath it seems to go “right to the pit of the chest and stick there;” a catching pain whenever she coughs in the left side; white and tasteless phlegm comes up with the cough. Miscarriage six weeks ago, sequential to which came a bearing down of the womb without sacral pain.

Indifferent appetite and obstinately confined bowels.

Lichen agrius very tormenting over the face and chest.

No abnormal stethoscopic signs.

In this very ordinary case we find a sense of constriction and fulness of the chest as from imperfect inflation of the lungs leading to diminished aëration of the blood and consequent engorgement of the right side of the heart, pointing to deficient energy of the pneumogastrics; a uterine weakness following loss of blood and a similar condition of the bowels and stomach indicating paresis of the solar plexus, splanchnics, &c.; so that we have enfeeblement of, in fact, the whole body attended with an itching eruption, a constant concomitant of depressed vital powers.

The symptoms are by no means remarkable, but they put us in possession of trustworthy indications for our remedy; uterine weakness aggravating and keeping a-going and, in many cases, originating diminished vitality in other parts; for a full and sufficient description of which we would refer the reader to Bennet's admirable monograph on *Inflammation of the Womb*.

The woman was thin, and the lichenous spots showed markedly from the extravasated blood left after scratching; except for this the skin was pale and anæmic, and the blood in an evidently hydræmic condition; the constitution was a representative hydrogenoid. We cannot follow Grauvogl

through all his statements about the hydrogenoid constitution, nor is it necessary we should ; but this to us is exceedingly gratifying that independently of him we have, in a measure, arrived at his conclusions as regards the remedial agents for hygroscopic blood. " These agents are," he states : "*Natrum nitricum, Natrum carbonicum, Acetate of Soda, and Sal ammoniac, besides Iodine, Bromine, Chlorine, Nitric acid, Natrum muriaticum, Borax, &c.*"

It is plain, therefore, that this investigation turns out, so far, to be confirmatory of Grauvogl's observations ; in this *Liquor Sodæ* we obtain in combination three most important salts of soda, and we find from observation what to Grauvogl must at starting have been apparent, that it is a pre-eminent specific for hydræmic blood ; but besides this we find, what theory could not determine, that it exerts a specific action upon the womb.

To conclude our case. After four weeks we note : the cure has been interrupted by a cold ; cough, left-side pain, and tightness on the chest gone altogether, sleep much improved ; eruption has ceased to irritate and is fast disappearing ; the bowels act every day, the appetite improves, and the bearing down is quite gone.

There is a popular idea that taking *Sulphur* renders one liable to catch cold ; I cannot say that I have noticed this particularly of *Sulphur*, at least not more than with many other remedies ; but certainly, as I stated in the April number of the *Dublin Medical Journal*, it is an unusually common occurrence in patients under this chlorine solution.

The compounds of *Ammonia* take precedence among alkalis as spinal irritants ; the spinal disturbance can be traced in the symptoms given in Hahnemann's *Chronic Diseases* ; thus, *Ammonia carbonica* makes the prover feel, " on leaving her bed, she is often unable to stand on account of weariness." *Ammonia muriatica* makes the prover feel contracted in the whole body after waking up, so that she was scarcely able to walk, and causes much lassitude in the morning. It is a great help in studying the provings for one to allow the spinal symptoms to engage attention

first, and then to make note of the remainder of the proving.

In old men the first symptom of failing power manifests itself in reference to the bladder; they are compelled to rise early to evacuate its contents, and in enlargements of the prostate gland the same holds good. The irritation is first felt in the morning about daybreak, probably not from any glandular peculiarity, but that at this time of day the spinal cord is in a more enfeebled condition.

It is quite possible that a compound of *Salts of Ammonia* resembling *Liquor Sodæ* would act more powerfully than it does upon the spinal cord; but this is not matter for present discussion; it is sufficient to say that we know our remedy does possess marked spinal action and that we gather this from constant observation.

A patient who had in old school hands proved very susceptible to the action of *Iodide of Potassium*, one of the many instances of the necessity for small doses, indignantly charged me with administering her old enemy after taking a dose or two of *Liquor Sodæ*; but here and in all other cases up to the present where prostration was induced it differed from that brought on by *Iodide of Potassium* in the absence of all coryzal symptoms.

Post-mortem examination of animals poisoned by the *Liquor Sodæ* can alone satisfactorily determine how far its action is that of a spinal irritant; and without the required pathological data many of our conclusions must rest under the stigma of requiring qualification. We proceed, however, with the intention of making use of such opportunities as are placed in our path.

CASE 10.—M. A. D—, æt. 32, ill for over two years, a stout, hearty, plethoric-looking woman, sterile, married six years, never miscarried.

Feels "all in a flutter" about the chest, excessively weak, and has much pain in the lower back, worse in the morning on rising, aggravated to excess by fright, which causes a pain in the pit of the chest and general tremor of the body.

Has much leucorrhœa, and for two years and a half a

bearing down, worse on getting up in the morning and after taking long walks. Her mouth is parched in the morning on rising, and she is then as fatigued as when going to bed. Very bad appetite, but better appetite for supper than for any other meal. Vertigo, which comes on after being in the least frightened, leans against something to prevent herself falling; has within the last two days twice fainted. Irritation of the skin of the face when warm and after washing. Catamenia regular and natural; no submammary pain; bowels confined; tongue clean.

The nervous symptoms were induced by fright, namely, intelligence of a near relation's death about two years ago, but the frame was in a debilitated state at the time, at least, the uterine distress was present.

This, it is plain, cannot be considered a case of spinal disturbance *ab origine*, for we have preceding the nervous disturbance the indication of uterine congestion in the pelvic forcing down, but as generally happens one time or other in the history of this affection, spinal symptoms when she came under treatment were complicating the case; firstly, we have the back pain disturbed by any sudden emotion and occasioning general tremor of the body; then we have the fatigued feeling in the morning, and its natural consequence, the better appetite for supper than for any other meal, the *vertigo caduca* and the facial flushing after washing and when warm, probably pointing to a paresis of the sympathetic; and, lastly, we have a frequent accompaniment of nerve tension, confined bowels.

For these symptoms we prescribed the *Liquor Sodæ*, and in a fortnight find that there is marked improvement, and that the medicine is manifesting its lowering tendency by *increasing the depression of spirits*; there is also to be noted cessation of vertigo, and amelioration of the local uterine symptoms, the leucorrhœa, back-pain, and bearing down.

Let us now note the drift of the disturbance the medicine occasions. After going on with it for a fortnight we have to record "a pain in the left submammary region which she has never had before;" this we believe is due to the *Liquor Sodæ*, especially as it has often removed such a

pain after failure with *Cimicifuga*, and that the uterine action continues is shown by the monthly period, though generally ushered in with violent back-pain, having passed off without suffering. It would seem that submammary pain is more diagnostic of ovarian than of uterine irritation. The *Liquor Sodæ* disperses the uterine congestion, and in being dislodged the irritation spreads over contiguous surfaces, and through the Fallopian tubes to the ovaries. At the end of the month our patient returned her admission ticket, feeling "like a different person," vertigo gone, nerves much stronger, bowels regular, less tired on rising in the morning; unpleasant dry condition of the mouth, leucorrhœa and bearing down gone.

Analysis of the case gives us impressionable condition of the sympathetic system kept a-going by a congested condition of the os uteri, which constantly reflects irritation to the spinal cord.

If we revert to Mrs. D—'s case, at p. 632, we observe as aggravation from the soda solution that the knees became too weak to support the body, that she trembled all over, that the lower part of the back became tender, that the bowels and the vagina felt heated and distended, that the distension is felt first in the lower part of the abdomen and then across the hypochondria; there seems to have been a profound impression made upon the spinal cord, the cerebro-spinal system is rendered impressionable, the vaso-motor nerves are acted upon, and there is more or less disturbance of the sympathetic system.

We are led from such cases as these, and we see many of them, to believe that the lower portion of the spinal cord, the ganglion impar, is gravely affected by this compound of the *Salts of Sodium*, and if so, it must prove of use in many spinal diseases where the paroxysmal sufferings manifest themselves in the morning; for, as we have before inferred, it is not merely that the symptoms increase *on getting up* after repose, but they *seem* to show the spinal disturbance is at its height before the usual time for rising; thus, in the *enuresis somni* of children four or five o'clock in the morning is a very usual time for the bladder to become

disturbed; the mother will complain that she examined her child's bed at midnight, when all was right, but that at six or seven she found him in a pool of water; so also with seminal emissions. In the great majority of cases they occur in the early morning (Erichsen), and after each attack the patient experiences more or less depression on getting up. Again, in asthma, the severest attacks occur in the early morning. In these diseases our experience has been very favorable with *Liquor Sodæ*. In one striking instance where seminal emissions had continued for three years, and where the patient was reduced to a painful state of physical and mental depression, the *Liquor Sodæ* was immediately successful; but one emission occurred after it was begun with, though previously he had had them three or four times a week in spite of the efforts of a London electrician under whom he had been.

It is not too much to assert that *Chlorinated Soda* is simply the most efficacious remedial agent in asthmatic affections it has ever been my good fortune to prescribe. It would be unnecessarily tedious to narrate the cases in the present article, but the following, from the April number of the *Homœopathic World*, will doubtless be read with interest.

To the Editor of the Homœopathic World.

SIR,—As asthma is a disease which our homœopathic medicines often fail to relieve, anything which will benefit this distressing malady must be a great boon to those afflicted with it. The use of the *L. S. Chloratæ* in this complaint was suggested to me by Dr. Robert T. Cooper, of Southampton, who has, I believe, written a paper on this medicine. I tried it in a case of bronchitic asthma with very satisfactory result. The patient was a lady, about thirty years of age, to whom I had previously given *Ars.*, *Ipec.*, *Ant. t.*, *Bry.*, and *Nux vom.*, with only temporary benefit. I then resorted to the *Liq. Sodæ Chlor.*, five drops of this preparation to two drachms of water, of which solution five drops were given for a dose. A few days after I received a letter saying she had greatly benefited by the

last medicine, and that even *after the second dose* she "did not feel like the same person;" the difficulty of breathing was quite relieved, and the cough much better. Shortly after she called on me, telling me it was the first time she had been out of doors for three months.—I am, &c.,

F. G. STANLEY WILDE, L.R.C.P., L.R.C.S. Edin.

To this Mr. Wilde appended this postscript :

"No doubt this medicine owes its homœopathic action to the *Chlorine* contained in it, which it is well known causes spasm of the muscular fibres of the bronchial tubes."

However, it is the *tout ensemble* of the drug, and particularly its cerebro-spinal action, that renders it so valuable in asthma; it is when we get a dilated condition of the right side of the heart from venous obstruction and its attendant constriction of the chest and interscapular pain, and in the presence of much bronchial expectoration with hypogastric sinking, that the *Chlorinated Soda* is so useful; we cannot attach its efficacy to the production of one only or the conditions prevailing.

The editors of the last edition of *Pereira* insert the following significant paragraph :

"*Chlorine* has been used lately in France as an antidote to poisoning by *Strychnine*. M. Bardet says that out of twenty dogs poisoned by *Nux vomica* he recovered sixteen by administering *Chlorine* in solution. He continued the treatment, however, by alternating the *Chlorine* with doses of *Tartar emetic* so as to cause vomiting before the second dose of *Chlorine* is administered. These cases may (say the editors) have depended entirely on the emetic action of the tartrate; at any rate, the history does not satisfactorily establish the value of the antidote."

It may not, but believing as we do in the law of similars, it seems to us that the probabilities of *Chlorine* being antidotal to *Strychnine* are very great; or rather, speaking on the card, of this *Chlorinated Soda* solution proving an antidote; our own investigations have led us to *Pulsatilla* as antidotal, but in this matter clinical observation is very likely to prove fallacious.

In Mrs. D—'s case, then, the *Liquor Sodæ* produced

a feeling as if the lower bowels were in a ferment; they feel distended and the vagina burns, the nervous distribution to the mucous surfaces plainly is disturbed, the lower abdomen is thrown into a ferment, it *feels* distended, the vaso-motor twigs become excited and nervous erethism prevails throughout the system, increased on the extension of the local distress to the upper portion of the abdomen. What would appear to occur is this: the vaginal and rectal innervation augments, and from the rectum the disturbance spreads upwards along the mucous membrane of the large intestine, the sigmoid flexure, and the colon. We have had the *Liquor Sodæ* acting upon the uterus, lessening its congestion, strengthening its supports, removing ovarian irritation and its attendant submammary, chest and head sympathies; we have had an example of its hepatic and then of its spinal action, and we have seen that it evidently affects the mucous surfaces of the large intestine. The smaller intestinal glands cease to pour out their secretion, the liver and kidneys become slow to act, the intestinal villi become inflated and non-secreting, the *succus intestinalis* becomes deficient, causing thirst and constipation, the peristaltic action becomes disordered, and hence tenesmus of the rectum and remainder of the large intestine with consequent inclination for evacuation.

Intermediate between the liver and rectum, and intimately related, as Indian practitioners have abundantly proved (Sir R. Martin) to the former, lies the cæcum. Our remedy at once removed an intense pain in the cæcal region in a girl of eighteen, where it had come on with pains all over the body a month before and had caused, for four days, intense and constant distress, especially at night.

We have by these observations placed the *Chlorinated Soda* in juxta-position with *Corrosive Mercury* and *Arsenic*; we have reason to suspect that it can produce a condition of the intestinal mucous membrane resembling that met with in dysenteric affections, but we are not prepared to speak positively upon this matter, nor to precisionise the particular cases likely to demand it; however, there is

something to be learned from the following case, and it may place us upon the road towards farther investigation. Nor must we forget that Reid, of Dublin, many years ago, recommended it in the same affection to lessen foetidity of the stools and to subdue the inflammatory irritation of the large intestine.

CASE 11.—M. A. T—, æt. 29, a nervous, low-spirited girl, of light auburn hair and very subject to dyspepsia, suffered with a severe diarrhœa, which lasted three weeks and was then cut short with astringents; after this and about two months back there came on, from severe over-fatigue, a second attack which now took the form of dysentery and for which she was treated homœopathically, but it left great prostration, so much so as to oblige her to remain in-doors until she came to have advice.

There is stiff aching in the nape of the neck extending to the shoulders, and pain, two inches to the left of the base of sternum going through to under the left shoulder, worse on deep inspiration; the same pain, similarly situated but less constant, is felt on the right side extending to under the corresponding shoulder.

Constant retching and bitter taste; tenesmus with confined bowels; loss of appetite; catamenia regular.

Burning heat all over the abdomen, especially towards night time, lasting all through the night and attended with intense thirst.

Prescription.—*Liq. Sodæ Chlor.* gtt. v, *Aquæ* ʒij. Misce. in coch. med. aq. t. d.

Second week.—Burning heat abated, has not been felt for two days, not nearly so much tenesmus with the motions, but there is still some ineffectual inclination for evacuation. *Chest pains gone.* Continue.

Third week.—Aching in the nape of neck gone; the burning pain in the bowels has again come on, it continues now during the daytime only and makes her feel very irritable; it gives her the sensation of an "internal blister," but there is no thirst with it.

In spite of *Arsenicum*, *Pulsatilla*, *Mercurius corrosivus*, and other remedies this burning sensation, due possibly to

an injured condition of the mucous surface of the large bowel left by the dysentery, lingered on for some weeks gradually improving but not having altogether ceased by the time she discontinued treatment.

The case teaches us that *Soda Chlorata* can relieve the thirst, tenesmus, and sympathetic pains, while it materially assists the restoration of recuperative power in the debility following dysentery.

It is one of the features of Labarraque's disinfecting fluid that its action is very widespread; it would seem not to leave untouched any organ or region of the body; it seems to matter little whether the duodenum or colon, the liver or the uterus is affected provided the general bearing of the case calls for its exhibition.

Amongst the symptoms met with in atonic dyspepsia is sinking distress after eating, giving rise to a sense of emptiness and a sense of fulness in the stomach; this is described sometimes as a "sinking in the pit of the stomach," at others as a sinking in the pit of the chest. According to Inman (*Spinal Irritation*, p. 32) it is referred by patients to either attachment of the rectus abdominis muscles and is due to a myalgic affection; at all events it is as often met with a little above the navel and appears to be dependent upon an impression made upon the solar plexus by reason of some local irritability.

CASE 12.—John C—'s case illustrates this: he was forty years of age, by trade a bricklayer, and though of strong build had evidently been thoroughly pulled to pieces; he has suffered for four years and has been under a host of doctors, but without deriving benefit from their treatment; all this time he has been "a mass of pain all over." His symptoms are—Much flatulent distension across the hypochondria, increased after he takes food; nasty putrid taste; pains in the hip-joint accompany the hypochondriacal distension; pain in the part of the back that corresponds to the hypochondria or the hip-joints according as the local distress exists in either region; he has a pain with tenderness on pressure in the pit of the chest, corresponding with which occurs a pain in both

shoulders; he presents a jaundiced appearance and the urine is very high coloured.

His skin is non-perspiring and after the slightest exposure he catches cold.

He dates his illness to his catching cold in his occupation as bricklayer; for a long time he had his arm drawn up in a stiff and powerless condition, and it is still weak and painful, but the stiffness is almost gone; and since the commencement of his illness he has lost his voice; at present he can't speak above a whisper.

After a week of *Soda Chlorata* the pain in the pit of the chest, the shoulder, and the back pains corresponding with the hypochondriacal fulness, as well as the putrid taste, disappeared, the upper part of the body felt quite well, and the bowels, which up to the commencement of treatment had required drastic purgatives to move them, were acting regularly; an impression had evidently been made upon the parts supplied from the coeliac axis; but the hip-pains and their associated sacral pains remained the same.

No note was made of the effect of the remedy upon the power of speech, and the patient's neglect in not returning leaves us in the dark as to his subsequent welfare; but when I remember that the man was of strong build, that the reactive powers but slumbered, and that once set a-going were easily lighted up, and when with this I take into consideration my experience with this preparation, I feel convinced that the other symptoms soon left, though in these I do not mean to include the aphonia.

Analysis.—Duodenal irritation causing jaundice; flatulent accumulation contributing to same; colon and rectal inactivity occasioning constipation; transmitted pains in various regions; cessation of the principal symptoms after one week of *Soda Chlorata*.

Mark well the putrid taste; we have no symptom more clearly pathognomonic of the soda solution than is this. As a disinfectant it is supposed to be capable of removing impurity of the breath, and, indeed, it is possible that by deodorization such an effect might be accomplished, but the principles of deodorization will hardly suffice to account for

its relationship to the cause occasioning this impurity ; we must look further or else incur the risk of being engulfed in that flagrant routine from which allopathy has never been able to extricate herself.

CASE 18.—Mrs. C—, a woman æt. 40, whose occupation obliges her to be out in all weathers, hawking goods from place to place, was treated in the Infirmary here for what she called abscess of the womb eighteen months before coming to us. She was married at seventeen, and lived ten years with her first husband, and has had another spell of ten with her present, and matrimony has blessed her with nine children, all alive ! Since the abscess of the womb she has suffered more or less from tenderness of the parts, at present so severe as to make progression extremely painful. She has much leucorrhœal discharge that leaves, when dry, a yellow stain upon the linen, and when attempting to sit down she feels as if something tender were pressed against ; moreover, after being to sleep in bed, she is awake with a sensation as if something were being pulled away from the right side, and when very bad, from the left as well of the sacrum. Her legs ache very much, and she feels weak. The bowels are regular, has a good deal of dysuria, a burning on micturating ; the tongue is much furred on waking in the morning. Taking cold is followed by a temporary pain in the left side, otherwise submammary distress is absent. The os is swollen and patulous, and the uterus retroverted and prolapsed.

After a fortnight of *Liquor Sodæ* she reported herself to be greatly better : the discharge and back-pain were subsiding, and for four nights she had not been awake with the pulling pain. Reports that two days after beginning with *Liquor Sodæ* she had a violent pain round the pudendum with excessive irritation, and that the womb protruded to about the size of an egg ; but that this got all right on discontinuing the medicine for some time, and did not recur on its resumption. It is a very important fact, and affords striking evidences of the medicine's effects, that she has been freer from bearing down for the last ten days than she ever remembers since the birth of her first child when seventeen years old. During the fortnight her tongue has

been more furred in the morning, and she suffers from a nasty putrid taste which is quite new to her.

This putrid taste I took to be medicinal influence, and therefore discontinued the remedy, and during the next fortnight there was nothing more heard of it.

Analysis.—Uterine and vaginal congestion producing weakness of and aching in the lower limbs, sacral distress and leucorrhœa.

This case has taught us that *Liquor Sodæ* may aggravate the condition for which it has a relationship; that it can not only produce a disease similar to that it cures, but that in acting upon the diseased surface it may temporarily increase the evil. So far this is satisfactory, for it eminently confirms the rules of medicinal action as given in Hahnemann's *Organon*; but my experience goes to prove that this species of aggravation coming from *Liquor Sodæ* is, on the whole, exceptional; *Liquor Sodæ*, though it *very often* sets up new symptoms, yet seldom aggravates those for which it has an elective affinity; in this respect contrasting with compounds of *Arsenic* and *Iron*, which are invariably liable to increase their irritabilities, and contrasting with *Sulphur* in very often producing new symptoms altogether unconnected with the original lesion. This might be accepted as the rule were it not for scrofulous inflammation in children, which it very often increases. The truth, therefore, would appear to be that though aggravation so often succeeds appropriate selections, whether we are to expect it or not will depend more upon the individuality of the remedy and the nature of the disease than upon the idiosyncrasy of the patients; but let readers keep in mind that I speak now of aggravation of the existing lesion only, not of the production of new symptoms which we often find depends upon idiosyncrasy in the constitution of the patient. Thus, for explanation's sake, *Liquor Sodæ* is related to the condition going under the name congestion, and which, from the nature of the affection, does not tend to exacerbate easily; *Sulphur* appropriated to aguish diseases, neuralgia, epilepsy and asthma, can from the nature of these diseases, as well as from its own intrinsic properties, seldom aggravate them; while *Arsenic* and *Iron*, presiding over

pure and simple irritabilities, will often make these worse ; but there is a point at which all the members of the groups meet, and there are affections which it is more than probable any of them, in its individual sphere, would at first increase.

We may put it, therefore, that *Sulphur* is a mild drug, *Soda Chlorata* an overpowering drug, and *Arsenic*, with its co-partner *Iron*, an irritating drug.

The womb then protruded from the influence of a very marked character exerted upon it by the *Chlorinated Soda*, and there was excessive pain and irritation round the pudendum ; it produced, therefore, a very troublesome affection that associates itself not unfrequently with inflammatory conditions of the neck of the womb, and one that invariably distresses both the patient and the physician. Chlorine preparations have before now been recommended for this unpleasant symptom (Darling, *Medical Repository*, Feb., 1826).

We have now collected ample evidence of the valuable properties *Liquor Soda* possesses in overcoming uterine weaknesses—properties that we are proud to say we have been the first to draw the attention not only of one section, but of the whole profession to ; and as these are among the most common diseases met with, and required under former methods of treatment constant personal exposure and prolonged confinement to the house on the part of the patient, and a protracted attendance on the part of the physician, there can be no difficulty in estimating the remedial value of a drug that in a great measure dispenses with these inconveniences.

It is sad to think that the more honest and straightforward our conduct becomes, and the more we concern ourselves for our patients' welfare, the less is the likelihood of being able to gain a competence by the poorest of poor professions ; and it is equally sad to contemplate the ease with which, with secret remedies in our possession, we could obtain from the public an adequate remuneration, and the difficulty we experience when in our anxiety for the welfare of our fellow-men we make them the common property of all.

The dyscrasia accompanying uterine congestions and its mode of origin is very uniform; the patients almost invariably refer the affection to a difficult or prolonged confinement, or more commonly to a miscarriage, which was attended with considerable loss of blood, and which loss induces anæmia of the uterine appendages; these become tender and painful, and additionally to the pain thus occasioned comes a weakness and relaxation of the ligamentous and other supporting structures of the womb; the vagina loses its grasp, it becomes relaxed, enfeebled, and devoid of supporting power, hence the womb falls, and the weakened structures are dragged upon in proportion as it prolapses, and the blood circulating throughout the entire system and previously impoverished modifies and increases the accompanying symptoms; in addition to the inertia already induced in the womb and neighbouring viscera an imperfect supply of blood to the digestive mucous tract occasions an excessive development of intestinal gases, and consequential inflation of the bowels, cardiac palpitation, chest and abdominal oppressions and flutterings, and as further result of the low vitalization of the blood, pustulation occurs upon the buccal mucous surfaces and within in the gums, upon the neck of the womb, and upon the vagina, upon the mucous surface of the rectum, and upon various parts of the skin, for example, in washerwomen especially, upon the legs and in the phthisical within the substance of the lungs.

We must not confound chronic inflammation of the urethra, leading to sympathetic uterine derangement, with true uterine congestion; the symptoms of urethral disease often simulate uterine very closely.

We repeat, the *Liquor Sodæ* differs from most polychrests in losing its power by dilution. It is absolutely inert in uterine affections when prescribed in a highly attenuated form. We have never met any patients with uterine disease who were the least benefited when we administered it in the attenuations, though the third potency has undoubtedly served us well in other affections: this we give as our individual experience up to the moment of writing, without at all wishing it to be regarded as final. What

we have also observed, moreover, is that an increase of a fraction of a grain will often be followed by a marked difference in the result, and this ought to be remembered by those who give trial to the remedy.

Again, it very often occasions exhaustion, accompanied by most painful depression of spirits for the first few days ; but this, if the case be an appropriate one, is merely a temporary effect, and a perseverance in the remedy does not increase it ; for my own part, I have had no difficulty when making inquiry into the sensations complained of, in determining the cases in which it ought to be persevered in. An infallible guide is emaciation ; if the patient complains of losing flesh I always discontinue it, feeling quite sure that nothing is to be gained by further perseverance with the remedy. This emaciation sets in so quickly, and is accompanied by such evident depression of the assimilative powers, that patients readily observe it, and never hesitate to speak freely about it. Absorption of fat has been observed as the effect of exposure to an atmosphere impregnated with *Chlorine*. (*Vide Pereira's Materia Medica*, vol. i, p. 283, last edition.)

If the complaint is merely that new symptoms arise after each dose of the medicine, and it is a very common result of its administration, this by itself is no contra-indication ; we must still persevere with it, or if the patient be very sensitive to its action, must wait a day or two and then resume it. The depression produced by *Liquor Sodæ* simulates very closely that of influenza, but the initiatory coryza is, as we have remarked, never present. Such depression is a well-known precursor and a sequela of typhoid fever, and there are not wanting observers who have testified to the beneficial effects of *Chlorine* and its compounds in various forms of typhoid affections ; but it would seem to be the depression or, perhaps, more correctly, the blood poisoning, not essentially and characteristically the fever that calls for *Chlorine*. The sponging the surface of the body with a strong solution of common salt will often arrest a typhoid tabes, and in convalescence from typhoid fever is the best application we can use to the

skin; so in ordinary influenza colds, a strong solution of bay-salt and water will prevent a continuance of the exhaustion, will stimulate the capillary circulation, and cause a glow of warmth to be felt all over the body, while it helps to put a stop to the night sweats, and arrests waste of tissue.

Typhoid fever and influenza are so intimately related that this fact induced me, on finding testimony to be almost unanimous in favour of *Baptisia* as an abortive agent in typhoid fever, to use it in influenza as well, and certainly, so far, the results have been satisfactory, though they are not sufficient to be conclusive. My conviction, however, is that we allow homœopathy to run riot by going out of our way to introduce new remedies before we have obtained even an elementary knowledge of the dynamic properties of preparations long and highly valued by the profession, and it remains very questionable whether the beneficial effects, so much lauded, of *Baptisia* can admit of comparison with those of *Chlorine* and its compounds.

Very similar to *Soda Chloratæ* in its action, especially in its faculty for producing emaciation, is *Acetic acid*. I have cured with *Acetic acid* rapid emaciation, treated by former medical attendants as phthisis, and in the debility of children it is often puzzling to know how to precisionise between them; it therefore, with other acids which we need not at present name, must be considered an analogue of the *Liquor Sodæ*.

Aloes, a drug most unjustly, and I might say ignorantly, laid aside in homœopathy, though not an analogue, must be looked upon as an intimate helpmate. With these two drugs it is astonishing what severe and long-lasting cases of indigestion may be cured: the putrid form, especially where a chronic state of gastric irritability has existed, soon succumbs to these remedies, given as the symptoms indicate. The *Liquor Sodæ* follows *Aloes* very well, or may precede it. I have found *Aloes* especially useful where combined gastric and intestinal irritability, due to climateric changes, existed, and where there was great loss

of appetite, and it is also useful in the vertical headaches remaining after severe confinements and miscarriages.

The lymphatic temperament seems to be the most appropriate one for *Liquor Sodæ*, as it is also for *Sulphur*; next comes the bilious, and here *Aloes* proves a great help; there is then the nervous, where *Pulsatilla* lends its aid, and the sanguine, where *Acetic acid* assists.

We have no remedy, not even excepting *Sulphur*, whose action is so diffused as this, none that will so greatly reward the observer by producing harmless and transitory aggravations, and aggravations, too, that have no connection with the original lesion.

In hysterical patients, especially where the hysterical tendency is associated with evident ovarian and dorsal tenderness, I have found the *Liquor Sodæ* to be a great supporter of *Ignatia*. In these cases it strengthens the digestive system, and so acts upon the nervous centres as to enable the mental faculties to exert their controlling powers upon the body, yet this neurosis is not a bright example of its curative powers; there are others in which it is more surely called for, and the consideration of which we must postpone for the present.

In destructive degeneration of tissue, with increase of the albuminates and organic constituents in the urine, and general wasting of the entire system from a non-deposition and absorption of fatty material, and consequent reduction of temperature with enfeeblement of blood-propelling power, in chronic diseases attended with anæmia, especially in spinal affections where ammoniacal decomposition of urine takes place with excessive secretion of mucus and phosphatic deposits, and where the contractile power of the bladder is lessened, the *Liquor Sodæ* will materially contribute towards convalescence by exhibiting a striking influence upon the cerebro-spinal system of nerves, and will thus arouse the pent-up energies of the pneumogastrics and phrenics, and will stimulate the respiratory effort and exalt the vital capacity, thus allowing a larger quantity of blood to become aerated, and diminishing the strain put upon the right side of the heart, and lessening in consequence

any asthmatical tendency, with the præcordial distress, and apical cardiac pain, and the interscapular neuralgia.

In vitiated conditions of the system arising from an insufficient supply of well oxygenated air, or from the imbibition of poisonous emanations, or from the constant use of water contaminated by metallic or organic impurities, or from partaking of unwholesome animal or vegetable food, and in forms of weakness favouring the generation of parasitic germs upon the skin and mucous membranes, or dyscrasias produced by the reabsorption of perspiration retained in the textures of the clothing, in putrid dyspepsia, or, in fact, in any affections accompanied by putridity, this *Chlorine* compound generally proves serviceable.

Investiganda.

To this article we may, following Tilt's suggestion, append some investiganda in the hope of interesting our readers in helping to clear obscure points that still remain in regard to the uterine sphere of action of our remedy.

The sixth question Tilt asks (*Uterine Therapeutics*, 3rd edition. London: John Churchill), and it will form part of our *first*, is this—"Fibrous tumour of the womb; how far can we depend upon this being calcified by the internal exhibition of *Chlorine of Calcium*, as proposed by Dr. McClintock?" or, rather, how far can we depend upon *Chloride of Calcium* acting specifically upon these tumours, as *Soda Chlorata* does upon uterine congestion; and is it the case that the *Chloride of Calcium*, equally with *Soda Chlorata*, exerts a specific action upon the womb?

Secondly. In what proportion, and in what variety of cases of ulceration of the neck of the womb can we, with *Soda Chlorata* in hand, dispense with caustic applications?

Thirdly. What are the cases in which it is necessary to apply *Soda Chlorata* locally?

CASES CURED BY ELAPS CORALLINUS AFTER OTHER MEDICINES HAD FAILED.

By A. C. CLIFTON, M.R.C.S.

CASE 1.—*Chronic inflammation of the naso-pharyngeal mucous membrane.*

E. H—, æt. 32, schoolmistress, had suffered for several years with sore throat and offensive discharge from the nose, and occasional bleeding from the nose, for which she had taken various homœopathic medicines without much benefit. She considered she gained most relief from steaming the inside of the throat and nose with hot water and by applying compresses of water to the outside, but had latterly been getting worse.

When she first consulted me the smell from her nose and mouth was very offensive, something like that of putrid herring pickle. The throat at its posterior wall was covered with a dry, greenish-yellow membrane wrinkled and fissured, which extended into the nares. About once a week or so portions of this would become detached and expelled either by mouth or nose, leaving the surface raw and corrugated. The membrane, when detached, was dry, hard, and moulded to the shape of the parts with which it had been in contact. There was always a good deal of stuffiness about the root of nose and a dull aching pain from there towards the forehead; when swallowing the pain extended to the ears. Her sense of smell was gone. She had headache frequently, especially in the occiput when tired by work. Her face was of a dull yellowish colour; she had no cough or symptoms of any chest disease; her digestive organs were weak, but there was no marked derangement of them. The catamenia appeared every second or third week, generally profusely and of very dark colour. Her skin was always hot and dry, and her pulse was 140 per minute, hard and tolerably full, although she was of a spare habit of body. These were about all the symptoms I noticed, and for these,

extending over a period of two to three years, I prescribed *Aconite*, *Belladonna*, *Aurum*, *Calcarea carb.*, *Calc. phos.*, *Arsenicum*, *Hepar sulphuris*, *Kali bichromicum*, *Kali hydriodicum*, *Lachesis*, *Pulsatilla*, *Sepia*, *Phosphorus*, *Sulphur*, *Nitric acid*, *Mercurius corrosivus*, *Kali chloricum*, *Antim. tart.*, *Phytolacca*, *Baptisia*, *Carbo veg.*, *Baryta carb.*, *Silicea*. I gave them in high dilutions and low dilutions, applied some of them, such as *Baptisia*, *Phytolacca*, *Kali bichrom.*, directly to the part affected. She consulted two homœopathic practitioners in London, who prescribed some of the remedies I have mentioned. She went to a hydropathic establishment for two months and carried out the same treatment at home for some time. But during the whole of the time—two to three years—none of the medicines I have named, except *Baptisia* and *Lachesis*, seemed to make *any* difference to her condition, and these only slightly so. The pulse and heat of skin remained unaltered; neither did the water treatment benefit her. *Cod-liver oil* benefited her general condition, but did not modify the local condition. After all this experience she left off treatment for some months, when, as I had recently been treating a case of otorrhœa of long standing, in which there was great heat of skin and quick pulse, which had been relieved by *Elaps Corallinus*, I sent for the patient again and found her in the same condition as when she left me. I gave her *Elaps Corallinus* 6th dilution in half-drop doses three times a day for a fortnight; she then reported herself better. I repeated the medicine for a month, at the end of which time she was comparatively well; her throat and nose were clean, no offensive smell, and her pulse reduced to 96 per minute; that is two years since. Up to the present time she has only had three slight returns of the symptoms, and *Elaps* always relieves them quickly, so I feel I am justified in considering that *Elaps* has been curative in this instance.

In detailing the various remedies I gave in this case I know I lay myself open to the charge of slipshod practice, but I considered then, as I do now, that some of the medicines were homœopathic to the condition, or at least

such as most practitioners would have given, whilst others were given in sheer desperation because I knew not what else to give.

CASE 2.—*Chronic otorrhœa with high febrile condition.*

M. J—, æt. 14, female, consulted me complaining of offensive discharge from right ear, with deafness on that side. Discharge had existed three years. Previously to that had been subject to epistaxis, and previous to that had suffered occasionally from eruptions about the nostrils and face. There was no family history of struma or tuberculosis. She was of spare habit, had a sallow complexion and heavy expression of face; there were no enlarged lymphatic glands; her appetite and digestion were good, but there was much thirst; bowels acted regularly; catamenia had not appeared; her skin was hot and dry, but she always complained of feeling cold; her pulse was 120 a minute. On examining the right ear there was a purulent offensive discharge seen, which being washed from the meatus did not disclose any particular amount of inflammation, but the membrana tympani appeared reddened. She could not hear a tuning-fork when struck close to the ear, nor could she hear my voice except indistinctly when other ear was closed; she had constant buzzing noise in the diseased ear. For this condition of things I prescribed over the space of four months *Sulphur*, *Calcarea carb.*, *Silicea*, *Pulsatilla*, and *Phosphorus*, in both high and low dilutions, without any benefit, at the end of which time I happened to be reading the *Pathogenesy of Elaps Corallinus*, where I found the following symptom under *œsophagus*, "The beverage is arrested in the *œsophagus* as by a spasmodic contraction of this organ, after which it descends like a heavy weight." I then remembered that this patient had complained of difficulty of swallowing liquids, but which I had forgotten to take into account in my choice of a remedy, or else I should have thought of *Lachesis*. Just as a speculation, therefore, I gave the patient *Elaps* 6th dilution, one drop twice a day,

for a fortnight, at the end of which time she declared she could hear better, but the discharge had not diminished; there was, however, less heat of skin, and her pulse was not so quick. I continued the same medicine, varying the dilution from 6th to 12th, for the space of six weeks, at the end of which time her hearing was restored, the discharge had ceased, her swallowing liquids was normal, heat of skin was gone, and her pulse reduced to 88. She has remained well since that time five years ago. Catamenia did not come on for a year after being cured.

CASE 3.—*Chronic ulceration of throat.*

T. H—, æt. 36, suffered for years with frequent attacks of ulceration of throat, more especially on the left side, and difficulty of swallowing liquids, occurring five or six times a year, lasting two or three weeks at a time; attacks come on if he is exposed to either rain or much wind; dislikes wet weather apart from the throat affection, says he never feels happy in wet weather; general health good in every other respect. This case I treated with *Lachesis* on two occasions with quick relief, but the attacks came on just the same by exposure to wind or rain. I, therefore, gave him *Sulphur*, without benefit, then *Elaps* 6th dilution, even whilst he was feeling tolerably well, taking it every night for a month; had no attack during the time of taking it nor for three months afterwards. He commenced it again as soon as ulceration began and was well in two days; he continued it twice a day for six weeks or two months, since which time, two years ago, has had no return of the disease. I gave *Elaps* in this case because *Lachesis* did not prevent a recurrence.

CASE 4.—*Chronic ulceration of throat.*

E. F—, æt. 48, a man. The case similar in every respect to the previous one, with the exception that his

attacks occurred more in the summer and were never caused by wet weather, neither had he any dislike to rain ; here *Elaps* did some good, but *Lachesis* 6th dil. was most efficacious.

CASE 5.—*Chronic stuffing of the nose.*

A. W—, a man, æt. 24, had suffered with partial stoppage high up the nostrils for as long as he can remember, always worse in wet weather ; there is occasionally a bad smell from his nose, no offensive discharge, occasionally bleeding on violently blowing his nose ; no diminution of sense of smell ; when he swallows he feels a pain go from root of nose to his ears ; he sneezes at night. *Sulphur* 12th dil. and *Teucrium* 1st dil. were given for a month, each without benefit. *Elaps* 6th dil. twice a day for a month improved his condition, and by continuing it at increased intervals for four months his stuffiness and all other symptoms were removed.

It will be seen that in the two first cases increased temperature of the body and very quick pulse were present ; in the first case this was very marked, and, although there is no similar pathogenetic action recorded of *Elaps*, it removed those symptoms as well as the other morbid conditions.

In the third and fifth case there was dislike to rain, and the symptoms were brought on by rainy weather, and in the *Pathogenesis of Elaps* we have recorded "Horror of Rain," "Sensitive to Cold," "Shuddering of the Arm when dipping the Hand into Cold Water."

AN EXAMINATION OF HAHNEMANN'S PATHO-
GENESIS OF *BELLADONNA*.

By Dr. RICHARD HUGHES.

(Continued from p. 496.)

35. S. 713 ("Tenesmus and colic") is taken from an essay on Strychnomania (one of the old names of *Belladonna*) by one *Faber*. The symptom appeared in a girl of 10, who had eaten but one or two berries. "*Tormina, tenesmus, vomitus, tota die frustra angebant*" are the words of the original.

36. S. 718 ("Constipation") is ascribed to *Fr. Hoffmann*, in his "*Medicina Rationalis*," p. 273. The reference is vague, as the work is in five volumes. However, at p. 273 of the 2nd vol. I find the statement on which Hahnemann has based his symptom: but it hardly warrants him in so doing. For Hoffmann is writing "*de venenis soporificis*" in general, as head and type of which he places *Opium*. That he should say of these "*alvum adstringunt*" does not prove that *Belladonna* causes constipation. The only corroborating symptom, indeed, is the next, and as credited to Greding this is itself misleading, as will be seen by the correction I shall make in it.

S. 718 must be expunged.

37. S. 497, 596, 637, and 653 belong to one *Göckel* and are taken from a paper of his, in the "*Fränkische Sammlungen*," vol. iii, detailing a fatal poisoning in a child, æt. 5, by *Belladonna* berries.

S. 497 ("Inflammation of throat and fauces") is authenticated thus: "*Acta Nat. Cur.*, vol. x, S. 90—*Rau und Göckel in Fränkische Samml.*, III, S. 44." This is altogether a confusion. There is nothing about inflammation of the throat in *Göckel's* narrative; and the "*Rau*" and the "*Acta Nat. Cur.*" should have been connected together as author and volume. In fact, this is the "*inflammatio faucium*" which we have already seen in

Rau (§ 15), and of which Hahnemann seems to have made S. 500. That being struck out as not in the original, the present symptom may remain as *Rau*'s.

With this exception all is correct. But it is important to specify that three of the four symptoms were not observed during life, but on post-mortem examination. This gives a somewhat different aspect to the "*Auftreibung des Unterleibes*" of S. 653. It is described by Göckel as "extraordinary and preternatural," and points rather to septic post-mortem change than to the tumefaction of inflammation.

38. We now come to an important narrative, from which Hahnemann has extracted twenty-two symptoms of much weight and interest. It is related by *Baldinger*, in the *Neues Magazin f. Aerzte*, I St., S. 30.

Four persons were poisoned by *Belladonna* berries, a man of sixty, two women of about the same age, and a younger man. S. 10 and 592 occurred in all within an hour of the poisoning. The narrative then follows up the case of the old man. S. 519, 11, 1083, 1085, 1146, and 607 were observed in him: after which (ten hours from the poisoning) he died. The physician then attended to one of the women, who had eaten largely of the berries. He found her in the state described in S. 1076, 1249, 1422, 1325, 520, 733, and 523. S. 522 and 394 were subsequently noticed; and S. 1095 after the beginning of convalescence. Lastly, S. 970, 422, and 491 are noted as occurring in the other woman and the younger man, who had both eaten fewer berries.

I think that this statement will suffice for any one who is desirous of knowing the circumstances and sequence of these poisonings. The symptoms are copied almost verbally from the German original; and the only one that needs correction is S. 1083. Hahnemann gives it "spasms of the hands and feet;" but *Baldinger*'s words are "*Zuckungen im Gesicht und an Händen.*"

39, 40. S. 277 is "He sees nothing distinctly, save remote objects and parallel rays (*e.g.* of a star in the heavens)." It is ascribed to the juice of *Belladonna* having

got into the eye, and is warranted by two authors, *C. Wells* and *J. Ware*. I have thought it needless to refer to them, as the presbyopia thus described is well known as an effect of the external application of *Belladonna*.

41. From one *Elfes*, in *Rust's Magazine*, vol. xxi, part 8, are taken Symptoms 259, 1068, and 1417. They are best presented in their context. The subject was a boy of seven, who had eaten some berries. He had "*fixed and greatly dilated pupils, with vision at times lost, at times only obscured* (259), trembling, vertigo, *subsultus tendimus* (1068), carphologia, very quick pulse, burning heat, redness of face, quickened respiration, aberration of mind, *mania, in which the patient was often very merry, sang and shouted, then again spat, bit, &c.* (1417), dysphagia, delayed stool, nausea, and gagging."

S. 1417 in the *Reine Arzneimittellehre* contains the misprint "listig" cunning for "lustig" merry. This should be corrected; the rest stands good.

42. The twelve symptoms ascribed to *El. Camerarius* I have found in *Wepfer's Historia Cicutæ*. Four children were poisoned by the berries. Of the three younger ones, aged 6, 4, and 3 respectively, S. 1084 is the only symptom which Hahnemann has cited. The rest he has taken from the account of the phenomena observed in the eldest, a boy of 12. Of these I have to note the two following points. 1st. S. 269 ("the eyes are blinded and stand open") hardly expresses with sufficient force the original "*oculi aperti licet cæcus caset.*" 2nd. The "at times he talks rationally" of S. 1344 should be "at times he answers rightly when questioned," which is a somewhat different thing. All else is correct.

43, 44. Six symptoms are referred to *Wierus*, as taken from his work, "*De præstigiis dæmonum.*" I could not obtain the Latin original; but the French translation has no mention of the effects of *Belladonna* in the 17th chapter of the third part, which Hahnemann cites. I should have had to leave these symptoms as unverified; but, in consulting *Schenck's "Observationes"* for the symptoms of *Moibanus* (see § 45), I came upon *Wierus's* name. It is

appended as authority to a narrative of a case of *Belladonna* poisoning by *Solenander*, which contains the six symptoms in question (S. 30, 31, 42, 1103, 1123, 1409). Two of (1409 and 42) appear again as S. 1410, which is referred to this very *Solenander*, "in den Abh. der Königl. Acad. d. Wissench. Breslau, 1750." As the statement is identical I did not think it necessary to consult this record of it; and it may well be omitted as a useless repetition. Wierus' six symptoms are valid and correct; and, the original reference failing us, may be cited as from Schenck.

45. The four symptoms (S. 33, 34, 37, and 281) ascribed to "*Moibanus*, bei Schenck," are found in the "*Observationum Medicarum libri vii*," of that author. They are taken from a case of poisoning by *Belladonna* in a man, who ate more than fifteen berries. They all stand good.

46. In the same valuable compendium I found the symptom (S. 1118) credited to *Porta*, so that I had no need to search his "*Magia Naturalis*" for it. It was produced by a strong infusion of *Belladonna*. The author adds to the description—"he could not be roused."

47. Four symptoms are taken from *Horst* (*Opera*, vol. ii, p. 488), and belong to a case of poisoning in a man, who took the inspissated juice of *Belladonna* in mistake for *Sambucus*. The only fault to be found with them is their brevity. I will place them in parallelism with their originals, that this may be seen. Hahnemann gives them thus:

164. Swelling of the head.

760. Too great flow of urine.

1310. Tremor.

1335. Constant delirium.

In *Horst* they stand as follows:

164. "Caput læsum et duplo majus."

760. "Urina exiit guttatim, et copiosior quam potu."

1310. "Manus imo et totum corpus concussum tremuerunt."

1335. "Mens hallucinata est, ita ut etiam sciens non potueri sibi temperare ab incongrue dictis et delirio."

In a revision these symptoms may well appear in their fuller form.

48. S. 1088 is referred to *Erhart's* (*Economische Pflanzenhistorie*, vol. x, p. 126. It is a true pathogenetic symptom, occurring in a boy of seven.

49. S. 1182 belongs to *Lentin* ("Beobachtung einiger Krankheiten," Göttingen, 1774). The drug was given medicinally in a case of mammary scirrhus; and "each dose evoked considerable fever with all the concomitants of that state."

50. S. 1268 is a startling one. "Universal hot and cold gangrene* (and rapid putrefaction of the body after death)" implies that the gangrene set in during life. But the narrative of the authority (*Mappus*, in his *Historia Plantarum Alsatiarum*) does not suggest such a thought. "In this city," he says, "the plant is notorious, on account of the frightful symptoms and sudden death which it caused in a citizen of the place, who, having white wine offered to him which had been mixed with *Belladonna* juice to produce a red colour, drank as much as half a measure (about twenty-four fluid ounces). Death forthwith ensued and a universal gangrene through the whole body, which in a short time became black throughout, and so flaccid, that the cuticle adhered to the surgeon's hands." This "gangrene," then, is a post-mortem phenomenon, such as Hahnemann refers to in his note to S. 487. It should find no place here among the fever-symptoms of the drug.

51. S. 480 and 598 are taken from a paper by *Meza*,† in vol. xiv of the "Sammlung auserlesener Abhandlungen zum Gebrauche praktischer Aerzte" (Leipzig), part 4. It is a narrative of "a long-standing case of tumour of the breast." In the course of it *Belladonna* was given, in a dose of over five grains; and the symptoms in question occurred thereupon.

52. In the third part of the same volume is a communication by one *Buchave*, from which Hahnemann has taken no less than twenty symptoms, some of them of much importance. The paper is entitled "Essay on the useful-

* "Heisser und kalter Brand."

† Not *De Meza*.

ness of *Belladonna* in Whooping-cough and some other Disorders." All the symptoms cited by Hahnemann were observed in whooping-cough patients, to whom *Belladonna* had been administered in considerable doses. They are correctly transcribed, with the exception of S. 1266, where the original states of the redness only, not of the swelling, that it extended over the whole body. There is nothing, moreover, in the condition of their subjects to impeach their purity, save as regards S. 49. "Loss of sense, with convulsions of the extremities," i. e., eclampsia, is too frequent a phenomenon of pertussis to make it certain that it was caused by the *Belladonna* administered. It must stand between brackets.

53. S. 1340 ("Delirious prattle about dogs that swarm about him") is referred simply to "Hufeland's Journal, xvi." The index of this volume conducts to two or three paragraphs about the action of *Belladonna*: but no such phenomenon as this is mentioned. The symptom must, therefore, stand as unverified, though there is nothing improbable as to its truthfulness (see S. 1339 and 1341).

54. Two symptoms (S. 761 and 1293) are taken from a paper by one *Evers*, in Schmucker's *vermischten Schriften*, vol. i, p. 185. They were observed in a patient attacked by serous apoplexy, to whom *Belladonna* was given. They seem to me therefore quite inadmissible.

I have now come to the end of my materials. There are yet seventeen of Hahnemann's references which I have been unable to consult, the works not being in the library of the British Museum or of the College of Surgeons. At a future time I may have other opportunities of access to them: for the present I must leave these symptoms unverified. The following is a brief account of them:

55. From the "*Diatrise de Belladonnâ*" of Christian Conrad *Sicelius** (Jena, 1724) eleven symptoms are taken. Three of these (S. 1, 23, and 290) are authenticated by other

* So in the *Fragmenta*. In the *Reine Arzneimittellehre* the reference for this author is "Observ. Dec. iv, Cas. 4." But no work of this name either is to be found in the Libraries to which I have had access.

authors; and a fourth (S. 735) would seem to be so, but that we have found de Launay d'Hermont to speak of difficult micturition rather than suppressed urine. This symptom, then, and seven others (S. 32, 171, 518, 590, 1098, 1175, 1372) must stand for the present unverified. There is nothing improbable about any of them; and most of them are supported by other observations appearing in their neighbourhood.

56. "*Ziegler*, Beobachtung, Leipzig, 1787, S. 21—38" is also credited with eleven symptoms; and here also three (S. 1, 1802, 1834) are otherwise warranted. Similar remarks too may be made about the remaining eight symptoms (S. 288, 289, 299, 475, 1069, 1145, 1180, 1292).

57, 58, 59. The "*Med. chirurg. Wahrnehm., Altenb.*" is cited in three places. In one the reference is simply to vol. vii. S. 62, 1355, and 1362, are thus authenticated. The last is warranted also by Glimm and Hochstetter; so that the two former alone remain on their own merits. Then we have seven symptoms from a paper by one *Lottinger*, in vol. ii, p. 326, of which five only belong to him solely (S. 276, 479, 525, 527, 786). The last of these is supported by Horst's symptom 760 when given in its original fulness; and the first is a well-known optical phenomenon of the influence of *Belladonna*. The remaining three are peculiar to this author. Last, we have nine symptoms from *Dumoulin*, who writes at p. 78 of the same volume. (In the *Reine Arzneimittellehre* this author is cited as "in Journ. de Méd., xi, Août." But his name does not appear there, as Dr. Guérin-Ménéville has ascertained for me; and in the *Fragmenta de viribus* he is referred to the *Med. chir. Wahrnehm.*) They are all his own (S. 297, 729, 763, 971, 1066, 1379, 1404, 1425, 1426).

60. Three symptoms (S. 6, 1079, 1248) are referred to "de St. Martin, Journal de Méd., xviii, Août." Dr. Guérin-Ménéville tells me that the August number is in vol. xix of the Journal, and contains no communication from such an author. The symptoms must therefore be left unverified.

61. From "*May*, im Hannöver. Mag. 1773, No. 97,"

eleven symptoms are taken. Four (S. 23, 392, 508, 1332) have other names attached to them; the rest (S. 199, 255, 601, 606, 1124, 1187, 1415) stand on his authority. S. 1124 is the only one about whose confirmation we should be anxious; it looks more like the effect of *Opium* than that of *Belladonna*. The "*baccæ in infantibus*" of the *Fragmenta*, however, gives some clue to the peculiarity.

62, 63. *Struwe's* "*Triumph der Heilkunde*" is quoted at p. 64 of the 1st vol. as authority for S. 1281; and *Ackermann*, in vol. iii of the same work, is credited with five separate symptoms (S. 35, 741, 1285, 1290, 1333).

64. "*Wienholt*, Heilkr. d. thier. Magnetismus, I, S. 310," has S. 481 and 948 referred to him. The former hardly needs his confirmation; but the latter is unintelligible as it stands.

65. Four symptoms (S. 452, 1172, 1180, 1353) are taken from the "*Nosologie*" of *Sauvages* (II. 2, p. 338) In this case I had no difficulty in obtaining the work; but no such observations were to be found at the page specified, nor in other places to which the index led me as probable seats of them. Dr. Guerin-Méneville has consulted another edition of the work for me; but with the same negative results. S. 1180 is one of *Ziegler's*; the other three remain provisionally on *Sauvages'* authority.

66. "*Schmucker*, Chirurg.-Wahrnem., II," is the (somewhat vague) authority for S. 824 and 1316. The latter is guaranteed also by *Lambergen*.

67. From "*Müller*, in *Horn's Archiv*. IX," S. 296 and 993 are taken. I obtained the journal named at the College of Surgeons; but no communication from any *Müller* appeared in it.

68, 69, 70, 71, 72. These are single symptoms. S. 195 is from "*Wetzler*, in *Annalen der Heilkunde*, 1810, Feb.:" S. 221 from "*Wasserberg* bei *Stoll*, *Ratio medendi*, III, S. 403;" S. 796 from *Evers*, in den *Berliner Samml.* IV" (it is not there); S. 752 from "*Baylie*, *Pract. Essays on Med. Subjects*, S. 37;" and 1430 from "*Timmermann*, *Diss. Periculum Belladonnæ*." All have *vraisemblance* enough save that of *Evers*; one would be glad to know

under what circumstances "badly smelling hæmorrhage from the uterus" was observed as an effect of *Belladonna*.

It will now be interesting to sum up the results of this investigation, as they bear upon the credibility of the symptoms which Hahnemann has admitted into his pathogeneses on the testimony of authors.

From the remarks just preceding, it will be seen that 61 symptoms must remain unverified. To these must be added the three (see § 22, 23, 39, 40) whose authors I have thought it needless to consult. Deducting these 64 from the total number, which is 475, we have 411 symptoms remaining for analysis.

Of these, 78 have seemed to me to deserve entire omission; 1 as being a duplicate; 8 as not found in the place referred to, which is otherwise correct; 3 as misleading by themselves, and needing amalgamation with others; and 66 as untrustworthy, from the impurity of their source. This last judgment I have only passed where the conclusion seemed irresistible; wherever there was a reasonable doubt I have recommended the milder measure of bracketing, which Hahnemann has adopted in the case of the doubtful symptoms of his fellow-provers. This has had to be done with 37 symptoms. Lastly, 33 symptoms have needed correction,—not of a mere word or expression only to bring them into more complete accordance with the original,—but in substance. The remaining 273 out of the 411 stand verified and unchanged.*

* The *data* for these conclusions are to be found in the four papers of which this is the last. It is only needful to add to them the following detailed information concerning *Greding's* symptoms, which I have recently re-examined.

Greding recounts the circumstances of the treatment of twenty-three epileptics with *Belladonna*. From all these narratives save the third Hahnemann has extracted one or more symptoms. The following list will show the symptoms furnished by the several patients, with such information regarding each as is necessary to illuminate the phenomena and to warrant the dealings I have taken with their record.

I. A young man, æt. 29.—S. 223, 275, 594, 921, 1097, 1222, 1224, 1322.

II. A woman, æt. 35.—S. 591.

IV. A young man, æt. 24.—S. 460, 511, 1270.

V. A young woman, æt. 23.—S. 60, 173, 241, 593, 1348, 1359. (S. 172 is also ascribed to her: but is not to be found.)

VI. A young woman, æt. 20.—S. 417, 502, 610, 1038, 1293, 1373.

VII. A man, æt. 35.—S. 1343. Subject to raving in connection with his epilepsy.

VIII. A young man, æt. 20, or more.—S. 529, 581, 737, 884.

IX. A young woman, æt. 25.—S. 342, 343.

X. A woman, æt. 40.—S. 552, 1190.

XI. A youth of 16.—S. 175, 263, 379, 759, 846, 910, 1082, 1113, 1114, 1115, 1210. S. 1351 is also ascribed to him; but is not to be found. This patient was for part of the time in a state of continual epilepsy, hardly out of one fit before he was in another. Symptoms observed under such conditions cannot certainly be ascribed to any drug that was being taken.

XII. A man, æt. 33.—S. 349, 564, 641, 1089, 1256, 1413, 1419. This patient was an epilepto-maniac. The singular symptom, 349, continued during seven days of madness. This, with all maniacal symptoms observed in the patient, is without doubt to be rejected.

XIII. A man, æt. 23.—S. 204, 205, 602, 757, 1303. A melancholio-maniac, in whom epilepsy supervened. S. 1303 is too probable an effect of his morbid condition to be retained as a symptom of *Belladonna*.

XIV. A woman, æt. 37.—S. 12, 64, 597, 613, 614, 615, 645, 698, 699, 719, 756, 787, 788, 789, 797, 904, 1067, 1071, 1072, 1192, 1257, 1261, 1273, 1326, 1374. This is the case which I have translated at length in my first paper.

XV. A woman, æt. 38.—S. 578, 876, 961.

XVI. A man, æt. 38.—S. 174, 550, 595, 1342. Epilepto-maniac.

XVII. A woman, æt. 29.—S. 271, 274, 577, 786, 1361. Epilepto-maniac.

XVIII. A woman, æt. 32.—S. 272, 646, 846, 1387, 1420. Epilepto-maniac.

XIX. A youth, æt. 23.—S. 197, 465, 758, 869, 1128, 1215.

XX. A woman, æt. 34.—S. 416, 418, 461, 916, 975.

XXI. A man, æt. 34.—S. 755, 1302, 1337, 1338. Epilepto-maniac. S. 1337 and 1338 are made up of the following:—"On Dec. 6, raving in his sleep, he cried out, 'All is on fire at home, it is necessary that I should return there.'"

XXII. A woman, æt. 42.—S. 383, 415, 730, 754, 807, 918, 1194, 1302, 1360, 1375, 1376, 1487, 1438. A violent epilepto-maniac, raging and convulsed throughout. Symptoms the least connected with the nervous system are doubtful from such a source.

XXIII. A youth, æt. 15.—S. 346, 508, 753, 909. S. 346 was immediately after a severe epileptic paroxysm.

Besides these symptoms, there are eight (S. 262, 507, 648, 703, 704, 968, 1255, 1283) which are referred to at pp. 319—324 of the work (*Ludwig's Adversaria Medico-Practica*, vol. i) which contains Greding's paper. But at these pages our author is detailing the treatment of some epilepto-maniacs by *Stramonium*; and *Belladonna* is never mentioned. If these are drug-symptoms at all, therefore, they belong to *Stramonium*, and must be expunged from the pathogenesis of *Belladonna*, into which they should never have crept.

Lastly, S. 273 is referred to, p. 606, which is prior to the commencement of Greding's paper: and S. 1116 has no page given, so that it cannot be found.

One conclusion from these results seems indubitable: viz. that this investigation must be without delay carried out for all Hahnemann's pathogeneses. If the 1st vol. of the *Reine Arzneimittellehre* be taken as an average, rather more than one fifth of the total number of symptoms collected by him are cited from authors. And if *Belladonna* furnish an average example of his work, one third of these, i. e. one fifteenth of the whole *Materia Medica*, need some kind of modification. If it were only for this the original sources ought to be examined. But I think that the light cast thereby on the symptoms which remain is alone worth the labour. It is what the daybooks of the provers would be to the symptoms furnished by them.

I have finally to present in a detailed form the symptoms whose sources I have been investigating, with the modifications to which we are thereby led. I have signified these in the following manner:

1. Symptoms which have been *verified* as pure and correct remain without any mark of distinction.
2. Symptoms which have been *corrected*, however slightly, are indicated by their number being in heavier type.
3. Symptoms which have been *rejected* are simply left blank, their number and author identifying them.
4. Symptoms of *doubtful* validity are indicated by being placed within square brackets.
5. Symptoms whose sources I have been unable to examine are printed in italics.

In retranslating, I have followed as closely as possible the vocabulary given at the beginning of the *Hahnemann's Materia Medica*. But when the original is in Latin or French, I have frequently chosen, among English equivalents, that one which best represented the author's expression.

1. Vertigo (*Sicelius, Ziegler, Buchave, Henning, Eb. Gmelin*).
6. *He walks round and round in a circle (de S. Martin).*

10. Vertigo, and trembling of the hands, so that they could not accomplish anything (*Baldinger*).

11. He reeled in walking, held on by the walls, complained of anguish and vertigo, and often spoke irrationally like a drunken man (*Baldinger*).

12. She rose early from her bed, and staggered to and fro like one intoxicated (*Greding, Case 14; De Launay d'Hermont*).

13. Vertiginous staggering (*Mardorf, Lottinger, Lamberg*).

21. Clouded head and intoxication, as from wine-drinking, with bloated, red countenance (*Albrecht*).

23. Cloudiness as in intoxication (*Hochstetter, May, Sicelius, Albrecht*).

30. Weakness of mind (*Wierus*).

31. Stupor (*Wagner, Buchave, Wierus*).

32. Confusion of mind (*Sicelius*).

33. Confusion of mind, so that he knew not whether he was dreaming or awake (*Moibanus*).

34. Confusion of the senses; sleepy, and yet awake, he imagined he was dreaming (*Moibanus*).

35. His senses deceive him (*Ackermann*).

37. He imagined he saw ghosts and various insects (*Moibanus*).

39. He imagined he saw things not present (*Wiedemann*).

40. He imagined he was riding on an ox or some such thing (*G—ch*).

42. He did not know his own relations (*Wierus*).

46. (*Greding, Case 14*).

47. Very great stupor (*Ollenroth*).

48. Loss of the senses (*Hasenest, Glinn, Rau* (2 hours after), *Eb. Gmelin, Hochstetter*).

49. [Loss of the senses, with convulsions of the limbs] (*Buchave*).

50. Disordered consciousness (*Henning*).

51. Entire disappearance of intelligence (*Sauter, Buchave*).

52. Impaired understanding for some weeks (*Rau*).

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- 53. Insensibility (*Vicat*).
- 54. Stupidity (*Wagner*).
- 60. Temporary return of the lost memory (*Greding*, Case 5).
- 61. He remembers things long bygone (*Wiedemann*).
- 62. *He remembers things which happened three years ago* (*Med. Chirurg. Wahrnem.*, vii).
- 64. [Violent headache] (*Greding*, in several cases).
- 147. Feeling in the brain as of the swashing of water (*Buchholz*).
- 164. Head swollen to double its size (*Horst*).
- 165. Great swelling of the head and redness over the whole body (*Münch*).*
- 169. Restless mien (*Boucher*).
- 170. (*Boucher*).
- 171. *Paleness of the face* (*Sicelius*).
- 172. (*Greding*, Case 5).
- 173. Paleness of face with increased appetite (*Greding*, Case 5).
- 174. (*Greding*, Case 16).
- 175. (*Greding*, Case 11).
- 186. Determination of blood to the head, red cheeks (*Buchave*).
- 187. Great head and redness of the cheeks (*Buchave*).
- 188. The face is much swollen, and hot (*Buchave*).
- 191. Blood-red countenance (*Sauter*).
- 192. (*Sauter*).
- 193. Bluish-red face, with great heat of the body, every evening (*Wiedemann*).
- 194. Scarlet redness of the face and chest during sleep (*Schäffer*).
- 195. *Scarlet redness of the surface of the whole body, especially of the face, with marked action of the brain* (*Wetzler*).
- 196. Dark red spots in his face, resembling the rash of scarlet fever; with full pulse (*Wiedemann*).
- 197. During a sudden rigor, great cloudiness of the head and sight, red eyes, and swollen face, which is covered with

* In two boys.

very small, irregularly shaped, dark-red spots, especially on the forehead (*Greding*, Case 19).

199. *Red swollen face* (*May*).

200. [Red, swollen face, with staring eyes] (*Justi*).

202. The face was red and swollen, but the rest of the body pale (*Glimm*).

204. Hard large swelling in the face near the nose and eye, with swelling also of the parotid gland on the opposite side, of five days' duration (*Greding*, Case 13).

205. Swelling of the left cheek near the nose and eye, which came on in the night, increased the next day, with heat, and lasted five days (*Greding*, Case 13).

206. Swollen face (*Münch*).

207. (*Lambergen*).

221. *Dryness of the eyes (the nose, the mouth, and the gullet)* (*Wasserberg*).

223. Pain and burning in the eyes (*Greding*, Case 1).

226. [Photophobia; he avoids looking at the light] (*Justi*).

241. Pressure in the eye, as of a grain of sand (*Greding*, Case 5).

251. Dilatation of the pupils (3½ hours after) (*Sauter*).

255. *Dilated, immovable pupils* (*May*).

256. Extreme dilatation of the pupils (*Boucher*).

258. Extreme dilatation of the pupils (from the application of a fresh *Belladonna* leaf to an ulcer below the eye) (*Ray*).

259. Vision at times lost, at times only obscured, with excessively dilated and quite immovable pupils (*Elfes*).

260. Complete dilatation of the pupil of the right eye, and blindness for three weeks (from injecting the juice of the plant into the eye) (*Dazies*).

261. Obscuration of sight from dilated pupils (*Buchave*).

262. (*Greding*).

263. [Blindness: the pupil of the right eye is extremely dilated and incapable of contraction] (*Greding*, Case 11).

264. [Great obscuration of sight] (*Justi*).

266. Blindness (*Hasenest*).

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267. Vision dimmed for three days: he cannot read print (*Hasenest*).

268. He awakes blind (*El. Camerarius*).

269. Though he is blind the eyes are open (*El. Camerarius*).

270. Extreme dimness of sight (*Ollenroth*).

271. Transient blindness with headache (*Greding, Case 17*).

272. [Dimness of sight alternating with cramps in the hands and feet, cloudiness of the head, and lassitude of the limbs] (*Greding, Case 18*).

273. (*Greding*).

274. Dulness of sight for three hours (*Greding, Case 17*).

275. With dulness of sight, trembling of all the limbs (*Greding, Case 1*).

276. Long-sightedness (*presbyopia*) as in old age (*Lottinger*).

277. He can see distinctly only quite distant objects and completely parallel rays, as those of a star in the heavens (from the juice of *Belladonna* injected into the eye) (*Wells, Ware*).

278. Such notable blindness was observed that she could not read ordinary print (*Lambergen*).

279. Mist before the eyes (*Bucholz*).

Blindness (*Sauter*).

281. In reading he can discern nothing in the book but the white margin which surrounds the area of black letterpress (*Moibanus*).

283. On reading, the letters shone, partly like gold, partly like blue size, and trembled (*Bucholz*).

288. He sees sparks before the eyes (*Ziegler*).

289. When moving the eyelids he sees sparks like those of electricity (*Ziegler*).

290. Objects are seen double (*Henning, Sicelius*).

292. (*Sauter*).

293. She sees objects inverted (*Henning*).

296. Staring eyes (*Müller*).

297. Staring look (*Dumoulin*).

298. The eyes are projecting and sparkling (*Glimm*).
299. The eyes are very animated, with fully dilated pupils (*Boucher*).
301. (*Sauter*).
302. The eyes turn spasmodically round and round (*Boucher*).
303. Spasms of the eyes, distorting them (*Schenck*).
305. Eyes and hands are in constant spasmodic motion (*Boucher*).
307. The eyes became distorted, with redness and swelling of the face (*Buchave*).
339. (*Sauter*).
341. Noises in the ears (*Vicat*).
342. Roaring in the ears, vertigo, and dull colic (*Greding*, Case 9).
343. Wind rushes out of her ears (*Greding*, Case 9).
346. (*Greding*, Case 23).
349. (*Greding*, Case 12).
367. Abscess of the upper lip, causing painful swelling, with fever, headache, and loss of appetite, ending in free discharge of pus (*Lambergen*).
378. *Spasmodic movements of the lips* (*Müller*).
379. (*Greding*, Case 11).
380. Spasms in the face (*Gmelin*).
381. *The mouth is drawn on one side by spasms* (*de S. Martin*).
382. Bloody foam issues copiously from the mouth (shortly before death) (*Albrecht*).
383. (*Greding*, Case 22).
392. Jaws firmly closed (*Hasenest*).
393. She clenched her teeth together, so that great force could not open them; with startings in all the limbs and chilliness (*Münch*).
394. She closed her teeth so firmly that it became necessary to break out a tooth in order to pour fluids down her throat (*Baldinger*).
414. Violent grinding of the teeth (*Münch*).
415. (*Greding*, Case 22).

416. [Grinding of the teeth and spasm of the right arm] (*Greding*, Case 20).

417. [Grinding of the teeth, with copious saliva running from the mouth] (*Greding*, Case 6).

418. Extremely painful swelling of the gum on the right side, with fever and sense of chill (*Greding*, Case 20).

422. Extremely troublesome itching of the gums, with pain in the throat (*Baldinger*).

448. Trembling of the tongue (*Weinmann*).

449. Stammering of the tongue (*Rau*).

451. He stammers like one intoxicated (*Buchave*).

452. *Temporary loss of speech (aphonia)* (*Sauvages*).

454. Speechlessness (*Wagner*).

455. Dumbness (*Hasenest*).

459. [The tongue is covered with a quantity of tenacious yellowish-white mucus] (*Justi*).

460. Tenacious mucus in the fauces (*Greding*, Case 4).

461. Tenacious saliva hangs in long strings from the mouth (*Greding*, Case 20).

462. Abundant salivation (*Ollenroth*).

465. He often spat out or vomited mucus (*Greding*, Case 19).

467. *The saliva in her throat was thickened, tenacious, white, and clinging to the tongue like glue, so that she was obliged to put something fluid into her mouth.* (*Sicelius*).

475. *Dryness in the mouth* (*Ziegler*).

477. Dryness of the pharynx (*Cullen*).

479. *Aridity of the mouth, as if the mucous membrane had been removed by some pungent or corrosive substance* (*Lottinger*).

480. Dryness in the mouth which can scarcely be removed (*Meza*).

481. *Dryness in the throat* (*Wienholt*).

485. Dryness in the mouth (*Lambergen*).

486. He cannot swallow on account of dryness in the mouth, the fauces, and the nose (*Buchave*).

487. Throwing up of blood, seemingly proceeding from the fauces (*Cullen*).*

* It ended in death. Also after death blood flows from the nose, mouth,

488. Hæmorrhage through the nose and mouth (when throwing up the berries from the operation of an emetic) (*Wagner*).

491. Pain in the throat (*Baldinger*).

494. Burning sensation in the fauces every time she took a dose (*Henning*).

496. Long-lasting burning pain in the fauces; food and drink burn like brandy (*Remer*).

497. Inflammation of the fauces (*Rau*).

500. (*Rau*).

502. Pain in the throat and colic (*Greding*, Case 6).

504. Difficult and painful deglutition (*Vicat*).

507. (*Greding*).

508. *Difficult deglutition* (*May*).

511. Impeded deglutition (*Remer*, *Greding*, Case 4).

512. Great constriction of the pharynx (*Cullen*).*

519. He chewed his food without being able to swallow it, because his throat seemed to him contracted (*Baldinger*).

520. In her unconsciousness she frequently put her finger deep into her throat, scratched at her gums, and pressed her throat with both hands (*Baldinger*).

521. He swallowed water with the greatest difficulty, and could only get down the very smallest quantity (*El. Camerarius*).

522. Aversion to all fluids, so that she demeaned herself frightfully at the sight of them (*Baldinger*).

523. The forcible administration of fluid medicine makes her furious (*Baldinger*).

524. His throat was contracted, so that he could not swallow (*de Launay d'Hermont*).

525. *Paralytic weakness of the internal parts of the mouth* (*Lottinger*).

527. *Loss of taste* (*Lottinger*).

529. Spoiled taste in the mouth (*Greding*, Case 8).

and ears of those who have been poisoned by *Belladonna*: they have a blackish violet hue either in the face only, or on one side of the body, or over the whole surface, or these parts are covered with gangrenous spots: the epidermis peels off easily, the abdomen becomes inflated, and putrefaction sets in sometimes within twelve hours, as *Eb. Gmelin* and *Faber* have stated.

* See S. 477 (Ed.).

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531. Extraordinary taste of the saliva (*Vicat*).
549. Aversion to food (*Glimm, Lottinger*).
550. [Entire aversion to all kinds of food and drink, with frequent weak pulse] (*Greding, Case 16*).
551. (*Lambergen*).
552. Want of appetite with headache (*Greding, Case 10*).
564. Cough after eating and great thirst (*Greding, Case 12*).
577. Eructations with want of appetite (*Greding, Case 17*).
578. Eructations and vertigo (*Greding, Case 15*).
581. Putrid eructations (*Greding, Case 8*).
590. *Loathing with inclination to vomit, especially when he would eat (Sicelius)*.
591. Frequent loathing and retching (*Greding, Case 2*).
592. Nausea, inclination to vomit, and such violent thirst that they were obliged to drink an excessive quantity of water (*Baldinger*).
593. Vomiting, in the evening (*Greding, Case 5*).
594. Vomiting, vertigo, and flushes of heat (*Greding, Case 1*).
595. Vomiting and profuse sweat (*Greding, Case 16*).
596. Excessive vomiting (*Göckel*).
597. Vomiting of mucus, after noon (*Greding, Case 5*).
598. Vomiting of bile and mucus (*Meza*).
599. Vomiting of undigested food, which had been taken twelve hours previously (*Glimm*).
600. Vomiting (after six hours) followed immediately by sleep for several hours (*El. Camerarius*).
601. *Inclination to vomit, unsuccessful retching (May)*.
602. (*Greding, Case 13*).
607. He did not vomit after fourteen grains of *Tartar emetic*, and did not even feel nauseated by it (*Baldinger*).
610. Violent hiccough about midnight (*Greding, Case 6*).
613. (*Greding, Case 14*).
614. [After hiccough, slight convulsions of head and limbs, followed by nausea and lassitude] (*Greding, Case 14*).
615. [Hiccough with convulsion alternately of the left

arm and right leg, followed by violent thirst with redness and heat of the head] (*Greding*, Case 14).

617. Excruciating pains about the pit of the stomach (*Wagner*).

627. Profound convulsion of the stomach, like hiccough, lasting for half an hour (in a puppy) (*Manetti*).

628. Spasm of the stomach, like cramp (*El. Camerarius*).

633. Burning in the stomach every time she took a dose (*Henning*).*

637. Inflammation of the stomach (ascertained post-mortem) (*Göckel*).

638. Inflammation of the upper part of the duodenum (ascertained post-mortem) (*Göckel*).

639. (*Albrecht*.)

640. Continual colic (*Greding*, Case 1).

641. [Colic, constipation, diuresis, with eructations and inclination to vomit] (*Greding*, Case 12).

645. Colic and leucorrhœa (*Greding*, Case 14).

646. Pressure in the abdomen as from a stone, with pains in the loins (*Greding*, Case 18).

648. (*Greding*.)

653. Extraordinary and preternatural inflation of the abdomen, after death (*Göckel*).

654. Distended, but neither hard nor painful, abdomen (*Boucher*).

655. [Distended, hard abdomen] (*Justi*).

657. The abdomen is tense round the ribs (*El. Camerarius*).

698. Heat of head alternating with diarrhœa (*Greding*, Case 14).

699. Diarrhœa, inclination to vomit, and pressure at the stomach (*Greding*, Case 14).

702. (*Weinmann*).

703. (*Greding*).

704. (*Greding*).

705. [Several watery stools immediately after profuse sweat] (*Justi*).

713. Urging to stool and colic (*Faber*).

* See S. 494. (Ed.)

718. (*Hoffmann*).

719. After a confined motion, distension of the abdomen, and heat of head (*Greding*, Case 14).

729. *Involuntary passage of feces, paralysis of the sphincter ani* (*Dumoulin*).

730. (*Greding*, Case 22).

733. Delayed evacuation of stool and urine, with profuse sweat (*Baldinger*).

735. Difficult micturition (*de Launay d'Hermont*).

736. *Retention of urine, which only comes off drop by drop* (*Lottinger*).

737. Frequent urging to urinate (*Greding*, Case 8).

740. Incessant urging to urinate (*Buchave*).

741. *Yellow, turbid urine* (*Ackermann*).

742. [Clear, lemon-coloured urine] (*Justi*).

749. (*Sauter*).

750. Diuresis (*Greding*, in several cases).

751. Frequent and copious emission of thin, pale, watery urine (*Glinn*).

752. Emission of much watery urine, with sweat (*Baylie*).

753. On the emission of a great quantity of urine, and during increased appetite, he is quite cold to the touch (*Greding*, Case 23).

754. [At night diuresis with great sweat] (*Greding*, Case 22).

755. With constant diuresis, great night-sweat (*Greding*, Case 21).

756. Diuresis, dulness of sight, and much thirst in the morning (*Greding*, Case 14).

757. Diuresis with sweat, good appetite, and tendency to diarrhoea (*Greding*, Case 13).

758. Diuresis with profuse sweat (*Greding*, Case 19).

759. [Diuresis, diarrhoea, and appetite] (*Greding*, Case 11).

760. Urine more copious than the drink taken would warrant (*Horst*).

761. (*Evers*, I.)

762. Involuntary micturition (*Boucher*).

763. *Involuntary passing of urine, paralysis of the neck of the bladder (Dumoulin).**

786. Previous to the catamenia, lassitude, colic, want of appetite, and dimness of sight (*Greding*, Case 17).

787. During the catamenia, yawning, and chills coursing along the back (*Greding*, Case 14).

788. During the catamenia, præcordial anxiety (*Greding*).

789. During the catamenia, great thirst (*Greding*, Case 14).

793. Increased menses (curative effect) (*Lambergen*).

794. Greater flow of the menses, with retardation till the 32nd, 36th, and 48th day (*Greding*).

796. *Badly smelling hæmorrhage from the uterus (Evers, II).*

797. Leucorrhœa and colic (*Greding*, Case 14).

803. Hoarseness (*Vicat*).

805. Noise and rattling in the bronchial tubes (*Rau*).

807. [For several days in succession, about noon, violent cough, with expectoration of much tenacious mucus] (*Greding*, Case 22).

824. *Oppression of the chest (Med. Chirurg. Wahrnem.).*

825. Difficult respiration (*Rau*).

830. (*De Launay d'Hermont.*)

831. Violent, short, hurried, anxious respiration (18 hours after) (*Glimm*).

838. Tightness of the chest (*Vicat*).

840. At times he breathed, at times he appeared to have drawn his last breath,—such attacks recurring four times in a quarter of an hour (*El. Camerarius*).

846. Fine shooting pain in the chest (*Greding*, Cases 11 and 18).

868. (*Lambergen*).

869. The chest and thighs are sprinkled over with very small dark-red spots, of irregular shape and size (*Greding*, Case 19).

876. Rheumatic pain in the back (*Greding*, Case 15).

884. Pain in head shifting to the scapulæ (*Greding*, Case 8).

902. Swelling of the injured arm and foot (*Münch*).

* See S. 729 (Ed.).

904. [Rheumatic pain in the right arm, with sense of formication ; on the following day spasm of the same arm] (*Greding*, Case 14).

905. (*Sauter*).

906. Swelling of the arm (*Münch*).

909. Heaviness of the left arm, relieved by venesection (*Greding*, Case 23).

910. (*Greding*, Case 11.)

916. [Spasm of the right arm with grinding of the teeth] (*Greding*, Case 20).

918. (*Greding*, Case 22.)

921. [Concussive spasms of the arms] (*Greding*, Case 1).

922. The arms and hands were in continual contortions (*Boucher*).

923. She occasionally stretched out her arms and hands, as if she would seize something (*Boucher*).

948. *Swelling of the hands* (*Wienholt*).

949. Great swelling of the hand (*Münch*).

960. Blister on the finger with painful inflammation (*Lambergen*).

961. [A pustule breaking out close to the nail of the right index finger, and emitting a quantity of humour] (*Greding*, Case 15).

968. (*Greding*).

970. Powerlessness of the feet (*i. e.* lower limbs), she must lie down ; with nausea, trembling, anxiety, and vertigo (*Baldinger*).

971. *Paralysis of the lower limbs* (*Dumoulin*).

975. Pain in the left hip, with limping (*Greding*, Case 20).

993. *Tremor of the knees* (*Müller*).

1009. (*Lambergen*).

1038. She complained of very painful cramp in the left arm and in the back, which in the evening extended to the thigh (*Greding*, Case 6).

1043. *Red scaly eruption on the lower parts of the body as far as the abdomen* (*Ziegler*).

1044. Bullæ, which easily burst open, on the plantar surface of the foot and on the tibia ; the foot was so pain-

ful that she had to keep the limb horizontally extended and immovable (*Lambergen*).

1066. *Slight convulsive movements of the limbs* (*Dumoulin*).

1067. Convulsive movements of the limbs (*Rau*).

1068. *Subsultus tendinum* (*Elfes*).

1069. *Twitchings of the limbs* (*Ziegler*).

1071. [Spasms of the limbs with hiccough] (*Greding*, Case 14).

1072. After heat and redness of the face, with great thirst, she had lassitude, anxiety, and slight starting of the limbs (*Greding*, Case 14).

1073. Convulsions (*Eb. Gmelin*).

1075. Repeated convulsions and horrible spasms, especially of the flexor muscles (*Glimm*).

1076. Strong convulsions and very loud ravings (*Baldinger*).

1077. Epileptic convulsions (*Wagner*).

1078. Excessive spasms, simulating true epilepsy (*Glimm*).

1079. *Convulsions, distortions of all the muscles* (*de S. Martin*).

1080. Spasms of all the limbs (*Münch*).

1081. In the intervals free from spasms she uttered the most violent cries, as if she were suffering great pain (*Glimm*).

1082. (*Greding*, Case 11).

1083. Insensibility, rattling breathing, and convulsive movements in the face and hands (*Baldinger*).

1084. Alternate strange distortions of the limbs and complete immobility (*El. Camerarius*).

1085. Entire insensibility, stiffness of the lower limbs, extreme distension of the superficial blood-vessels, with strangely red, swollen countenance, very full and rapid pulse, and excessive sweat (*Baldinger*).

1088. Stiffness of the whole body (*Erhardt*).

1089. (*Greding*, Case 12).

1095. Tremor of all the limbs, inability to walk, distended veins over the whole body, and disagreeable sense of irritation in the throat, for several days (*Baldinger*).

1097. Trembling and lassitude of the limbs (*Greding, Case 1*).

1098. *Lassitude of the limbs* (*Ziegler*).

1103. Weakness of the body (*Wierus*).

1104. Failure of strength (*Wagner*).

1105. Great prostration (*Carl*).

1113. (*Greding, Case 11*).

1114. (*Greding, Case 11*).

1115. (*Greding, Case 11*).

1116. (*Greding*).

1117. Apoplectic condition (after epileptic convulsions) (*Wagner*).

1118. He lay four days without taking any nourishment, motionless, like a dead person; he could not be roused (*Porta*).

1119. Lethargic, apoplectic condition; for a day and night they lay without any motion of the limbs; if pinched by the bystanders, they opened their eyes, but uttered no sound (*Wagner*).

1120. Soporose condition (*Hasenest*).

1122. Profound sleep (*Dillenius*).

1123. Deep sleep, lasting twenty-four hours (*Wierus*).

1124. *Quite profound somnolency, with subsultus tendinum; pale, cold face, and cold hands; and hard, small, quick pulse* (*May*).

1128. After a long sleep, violent thirst (*Greding, Case 19*).

1145. *He was constantly awaked out of sleep by frightful dreams and convulsions* (*Ziegler*).

1146. During his stupified sleep he opens his eyes, looks wildly round him, and relapses into stertorous slumber (*Baldinger*).

1158. Continual but ineffectual efforts to obtain sleep (*Glimm*).

1161. Sleeplessness for several days (*Hoyer*).

1172. (*Slumber*) (*Sauvages*).

1173. A sort of coma, with small, weak, irregular pulse (*Boucher*).

1174. Somnolence full of inquietude (*Mardorf*).

- 1175. *Great somnolence (Sicelius).*
- 1177. *Frequent yawning (Eb. Gmelin).*
- 1178. *Yawning, like that of intoxicated persons (Mardorf).*
- 1180. *Febrile disturbances (Sauvages, Ziegler).*
- 1181. *(Sauter.)*
- 1182. *Fever after each dose (Lentin).*
- 1183. *(G—ch.)*
- 1186. *Anxious seeking for drink (Glimm).*
- 1187. *Extremely troublesome thirst (May).*
- 1188. *Excessive thirst for cold water (4 hours after) (El. Camerarius).*
- 1189. *Tormented with burning thirst and heat in all parts ; she craved from time to time for drink, but repelled it when offered (Glimm).*
- 1190. *After the sweating at first induced had diminished, the thirst increased and the appetite fell off (Greding, Case 10).*
- 1192. *Frequent micturition, obscuration of vision, and thirst in the morning (Greding, Case 14).*
- 1194. *[Great thirst, frequent micturition, copious sweat] (Greding, Case 22).*
- 1204. *Chilliness (Münch).*
- 1210. *Febrile chilliness, with fine shooting pains in the chest (Greding, Case 11).**
- 1212. *(Sauter).*
- 1215. *Slight shuddering, with obscuration of vision, immediately after noon (Greding, Case 19).*
- 1222. *Fever: febrile chill in the morning, followed by slight heat (Greding, Case 1).*
- 1224. *Fever: at night febrile chill, succeeded quickly by heat of the body, with frequent micturition and lassitude of the limbs ; on the following night two attacks of the same kind, with vertigo and thirst (Greding, Case 1).*
- 1239. *Violent heat (Rau).*
- 1240. *Burning heat (El. Camerarius).*
- 1241. *Delirium and heat (Albrecht).*
- 1242. *Burning heat within and without (Vicat).*

* See S. 846 (Ed.).

1243. Internal burning (*Carl*).

1245. Great internal heat about the region of the stomach (*Hasenest*).

1247. The skin was dry and burning, and the pulse small, wiry, hard, and extremely frequent (*de Launay d' Hermont*).

1248. Burning fever (*causus*) (12 hours after) (*De S. Martin*).

1249. Burning heat of the body with great distension of the veins on the surface, and fury (*Baldinger*).

1250. Great heat, distension of the superficial veins of the body, and insatiable thirst (*Baldinger*).

1255. (*Greding*).

1256. [Every day, after the mid-day meal, great heat of the body, especially of the head, so that the face from time to time is very red] (*Greding*, Case 12).

1257. Every day (for twelve days) about noon, sudden heat of head and redness of face, with considerable obscuration of vision and great thirst, lasting an hour (*Greding*, Case 14).

1261. Redness and heat of the face, with great thirst (*Greding*, Case 14).

1262. Inflammation of the surface of the whole body (*Sauvages*).

1263. Redness of the whole body (*Münch*).

1264. Redness of the whole body with quick pulse (*Buchave*).

1265. Heat all over the body, with bluish redness of the whole surface (*Wiedemann*).

1266. Great swelling of the face, and intense heat, which at times extends over the whole body (*Buchave*).

1267. The whole body was swollen and red (*Sauter*).

1268. Death ensued, and a universal gangrene through the whole body, which in a short time became black throughout, and so flaccid, that the cuticle adhered to the surgeon's hands (*Mappus*).

1269. Sudden inflammations (*Mardorf*).

1270. Transitory inflammations (phlogoses) and rather difficult breathing (*Greding*, Case 4).

- 1271. (*Sauter*).
- 1272. (*Sauter*).
- 1273. Sensations of formication (*Greding*, Case 14).
- 1274. (*Sauter*).
- 1278. (*Sauter*).
- 1279. Cutaneous eruption resembling measles (*Buchave*).
- 1280. Dark-red scarlet spots over the whole body, with small quick pulse, tightness of the chest, an existing cough much increased in violence, delirium, excited memory, rubbing of the nose, and dilated pupils (*Wiedemann*).
- 1281. *Scarlet eruption (the first day)* (*Struve*).
- 1282. Eruption on skin of the bullæ, which emit a quantity of limpid or creamy lymph, and therewith such intense pain that the patient, though accustomed to suffering, cannot refrain from lamentations and tears (*Lambergen*).
- 1283. (*Greding*).
- 1285. *Sweat (after some hours)* (*Ackermann*).
- 1290. *Profuse night-sweat which does not weaken* (*Ackermann*).
- 1292. *Sweat in the morning* (*Ziegler*).
- 1293. Profuse sweat (*Greding*, Case 6).
- 1295. Violent sweating every night (*Greding*).
- 1299. Sweat during the sleep (*Buchave*).
- 1300. (*Sauter*).
- 1301. (*Sauter*).
- 1302. Profuse sweat with diuresis (*Ziegler*, *Greding*, Cases 21 and 22).
- 1303. (*Greding*, Case 13).
- 1310. Tremor (*Horst, de Launay d'Hermont, Eb. Gmelin*).
- 1313. Great anxiety about the præcordia (*Wagner*).
- 1316. Anxiety during the menses (*Lambergen, Schmucker*).
- 1320. (*Eb. Gmelin*).
- 1321. Sighing, alternating with jumping and dancing (*Mardorf*).
- 1322. (*Greding*, Case 1).
- 1323. Much anxiety, followed in an hour by perspiration (*Henning*).

1325. In her momentary lucid intervals she complains of intolerable anguish, so that she wishes to die (*Baldinger*).

1326. After dinner and supper, præcordial anxiety, headache, redness of face, and bitter taste in the mouth (*Greding, Case 14*).

1327. Anxiety and inquietude (*Eb. Gmelin*).

1328. Inquietude (*Boucher*).

1330. The whole body is in constant movement hither and thither, as in chorea (*Boucher*).

1331. Incessant movement of the body, especially of the arms, with unaltered pulse (*Boucher*).

1332. Active movement here and there in bed (*Boucher*).

1333. *The speech was more incoherent in the evening* (*Ackermann*).

1334. Rambling, delirium (*Ziegler, May, El. Camerarius, Eb. Gmelin, Buchoz, Med. Chir. Wahr. vii*).

1335. Constant delirium (*Hörst*).

1337. (*Greding, Case 21*).

1338. (*Greding, Case 21*).

1339. Talks of wolves being in the room; with full pulse (*G—ch*).

1340. *Delirious talk of dogs, as if they swarmed about him* (*Hufeland's Journal, xvi*).

1341. He is beside himself; raves; talks much about dogs; and his arm and face swell (*Münch*).

1342. (*Greding, Case 16*).

1343. (*Greding, Case 7*).

1344. At times he is delirious, at times he answers rightly when questioned, and bemoans himself (*El. Camerarius*).

1345. (*Albrecht*).

1346. She mutters like one asleep (*Hasenest*).

1347. Her mind was disordered, so that speech did not correspond to thought, nor thought to sense, nor sense to the objects present (*Glimm*).

1348. Senseless talk (*El. Camerarius, Buchave, Greding, Case 5*).

1349. She spoke constantly and rapidly, talking nonsense (*Sauter*).

1350. He talks like a maniac, with staring, protruded eyes (*Buchave*).
1351. (*Greding*, Case 11).
1352. After the talkativeness, dumbness (*Buchave*).
1353. *Merry craziness* (*Sauvages*).
1355. *He sings and warbles* (*Med. Chirurg. Wahrnem.* vii).
1358. She laughs a long time with herself (*Greding*, Case 5).
1359. Frequent laughter (*Greding*, Case 5).
1360. (*Greding*, Case 22).
1361. (*Greding*, Case 17).
1362. Loud laughter (*Glimm*, *Dumoulin*, *Hochstetter*, *Med. Chir. Wahrn.*, vii).
1363. Constant loud laughter (*Carl*).
1366. Ridiculous gestures: she feels after those about her, now she seats herself, now she acts as if she were washing, or counting money, or as if she were drinking (*Hasenest*).
1369. Various gesticulations (*Hochstetter*).
1370. Insanity (*Hochstetter*).
1371. Insanity; they stripped themselves, and, clad only in their shirts, ran out into the streets in broad daylight, gesticulating, dancing, laughing, and uttering and doing many absurd things (*Dillenius*).
1372. *He lifts his feet in walking as if he must step over things which were lying in his way, like a drunken person* (*Sicelius*).
1373. [Violent shaking of the head] (*Greding*, Case 6).
1374. (*Greding*, Case 14).
1375. (*Greding*, Case 22).
1376. (*Greding*, Case 22).
1377. (*Greding*, Case 13).
1378. (*Sauter*).
1379. *Weeping* (*Dumoulin*).
1386. (*Boucher*).
1387. (*Greding*, Case 18).
1404. *Horrible words and curses, in detached syllables* (*Dumoulin*).

1405. Delirium either continuous or recurring in paroxysms, mirthful at first, but subsequently changing to fury (*Vicat*).

1408. Delirium with fierceness (*Hoyez*).

1409. Fury (*Wierus, Schreck*).

1410. (*Solenander*).

1411. She tosses about in her bed in a perfect rage (*Sauter*).

1412. She tears her night dress and bedclothes (*Sauter*).

1413. (*Greding, Case 12*).

1415. Fury, with gnashing of the teeth and convulsions (*May*).

1416. Instead of eating that which he had asked for, he bit the wooden spoon in two, gnawed the plate, and growled and barked like a dog (*Münch*).

1417. Mania, in which the patient was often very merry, sang, and shouted; then again spat and bit (*Elfes*).

1418. She did foolish things, tore her clothes, pulled stones out of the ground and threw them at the passers-by (*Sauter*).

1419. (*Greding, Case 12*).

1420. (*Greding, Case 18*).

1421. Fury: she pulled at the hair of the bystanders (*Mardorf*).

1422. Such fury (with burning heat of the body, and open, staring, and immovable eyes) that she had to be held constantly, lest she should attack some one; and when thus held, so that she could not move, she spat continually at those about her (*Baldinger*).

1423. Extreme ill-humour after sleep: he bites those around him (*Buchave*).

1424. He bit at whatever came before him (*Münch*).

1425. Inclination to bite those around him (*Dumoulin*).

1426. Inclination to tear everything about him to pieces (*Dumoulin*).

1427. (*Sauter*).

1428. Delirious; picking at the bedclothes and throwing them off (*Eb. Gmelin*).

1429. He sought continually to spring out of bed (*Eb. Gmelin*).

1430. *She is so anxious and confused that she fears she is about to die* (*Timmermann*).

1431. He feared that death was near (*Eb. Gmelin*).

1435. (*Sauter*).

1436. He escaped under some pretext into the open field (*Münch*).

1437. (*Greding*, Case 22).

1438. (*Greding*, Case 22).

1439. In his delirium he threw himself down from a height (*Buchoz*).

1440. She jumped into the water (*Sauter*).

THE PRACTITIONER AND HOMŒOPATHY.

OUR readers know from the observations we felt ourselves obliged to make on Dr. James Ross's articles "On the Geometrical Method in Medicine" that the *Practitioner* had admitted a paper in which the subject of homœopathy was handled in a courteous spirit. Our colleague Dr. Sharp considered that Dr. Ross had not given an accurate account of some of his writings, and wrote to the editor of the *Practitioner* to correct Dr. Ross's mistakes. The following editorial appears in that periodical for July last.

"WE have to apologise to Dr. Sharp, of Rugby, for the inadvertent omission from the June *Practitioner* of a protest which he has made against some observations in an article by Dr. Ross ("Geometric Method in Medicine," Part III) in the May *Practitioner*. Dr. Ross stated that Dr. Sharp's writings afforded no "principle of selection" as to cases in which the homœopathic doctrine of similars might be applicable as a basis of practice, and those in which it might not. Dr. Sharp's reply to this was a communication which we were unable to insert in the form in which it reached us; but we are anxious to give

publicity to the fact that he repudiates the charge implied against his system, and points to various passages in his works which, he considers, completely disprove it. We should be sorry to fail in any courtesy to homœopathic practitioners simply because we reject their opinions, especially when, as in the case of Dr. Sharp, they are honest and original thinkers. Our reason for not admitting detailed replies to remarks on homœopathy which may appear in our pages is very simple, and had better be made here once for all. It is this—That were we once to admit controversy on homœopathy into our journal, we should simply be swamped with materials to an extent which nothing could justify, unless the subject were one of great importance. That, however, we cannot at all admit. We grant that homœopathy has an historical—an antiquarian—interest; and we think Dr. Ross has very well shown that it arose in a manner that was quite natural in the circumstances of the time. Certainly, homœopathy was no more unreasonable than a vast number of other theories which were entertained by the most orthodox people; it was simply, in our opinion, one of the latest developments of a mode of medical thought which was necessarily doomed from the moment when physiology began to be scientifically applied to the practice of medicine. Methinks it certain that physicians of the intellectual force of Dr. Sharp must sooner or later abandon homœopathy. But we deprecate the idea that because we cannot afford space for free controversy on homœopathy we intend the slightest discourtesy to homœopaths.

“We are sorry that, at the last moment, we have mislaid the paper containing Dr. Sharp’s quotations of those passages which he considers refute Dr. Ross’s charge. If Dr. Sharp will kindly send us the references to the works and the pages in question we will publish them with pleasure.”

It strikes us that Dr. Anstie’s professions of courtesy are a trifle too profuse and fulsome. True courtesy is to act honourably and justly, and the gentleman and man of science who so acts will never need to profess courtesy in words. The most gushing professions of courtesy will not make up for a deficiency in courteous, *i. e.*, honorable and just action.

Dr. Anstie has arrived at the opinion that homœopathy

is a subject of no great importance, possessing only a historical or antiquarian interest. Dr. Sharp has come to the conclusion that homœopathy is a subject of great importance, possessing a very present interest to the profession and the public. For Dr. Anstie, homœopathy is dead—a thing of the past; for Dr. Sharp, homœopathy is alive and vigorous—a thing of the present and the future.

Now, who is Dr. Sharp, and who is Dr. Anstie in this question? Dr. Sharp was surgeon to the Bradford Infirmary for thirty years; he is a Fellow of the Royal Society, and may surely be considered capable of judging of the truth or otherwise of homœopathy after having tried as he has done for twenty years. He pronounces in favour of its truth as a system of therapeutics. What proof have we that Dr. Anstie possesses equal capacity and has enjoyed equal opportunity? And yet Dr. Anstie, without having tried the homœopathic method at all, as far as we are aware, pronounces homœopathy to be of no importance and of mere antiquarian interest.

In his quality of editor Dr. Anstie admits into his periodical a theoretical paper condemning the practical value of homœopathy, under which name are included doctrines and practices repudiated by the homœopathic school. Dr. Sharp protests, but his protest is at first refused admission. On remonstrance, Dr. Anstie acknowledges that Dr. Sharp has protested against some of the observations in Dr. Ross's article; but he is unable to insert Dr. Sharp's communication. However, he accompanies his refusal to do this plain piece of justice with a profusion of apologies and fulsome compliments.

The difference betwixt the *Practitioner* with its acknowledged responsible editor and the other medical journals with their anonymous editors is this: that while the *Practitioner* stifles all discussion or advocacy of homœopathy by those who know the subject practically, with the accompaniment of some courtesies and apologetic banalities, the other medical journals do the same without courtesy or apology.

Can there be a better justification of the establishment of a special literature for homœopathy? It is not because

those favorable to homœopathy are sectarian or exclusive that they employ special organs for the promulgation and development of their system ; but because the other organs of medical opinion are shut against all that bears the name of homœopathy.

Dr. Anstie tells us that homœopathy is a mere affair of antiquarian curiosity. But at the same time he cannot meddle with it without the risk of being swamped with materials to an extent which nothing could justify! A most unexpected and surprising result from touching on an antiquated system, one would think. Suppose Dr. Anstie were to talk of the antiquated system of Stahl, Hoffmann, Cullen, Brown, or Broussais, would he fear being swamped by excess of material?

Has Dr. Anstie any right to put us down as believers in what he imagines to be homœopathy? We are not "homœopathists," or systematists, or exclusives, or anything but rational physicians claiming the liberty to treat the homœopathic method just like any other medical theory. Are such principles incompatible with the scope or aim of his journal? If so, then is his journal not a scientific one in the true sense of the word ; but the mere organ of an exclusive sect. Dr. Sharp is certainly no sectarian ; but he uses his undoubted right to exercise his judgment with respect to homœopathy as to other medical systems and theories. In so doing Dr. Sharp is not acting exceptionally, but he simply follows the principles in which this journal was begun years before he had heard of homœopathy, and in which it has continued ever since.

Probably Dr. Anstie, when he talks of homœopathy being antiquated, alludes to the homœopathy that has been dressed up for us by our allopathic opponents for these many years past, and which consists of making patients sniff globules of the 30th dilution of a medicine chosen by a senseless and mechanical comparison of symptoms of the disease with those of the drug as recorded in a purely imaginary *materia medica* ; of belief in an itch pathology, and in doses of medicine being medicinally strong in proportion to their material weakness. That such an idea of

homœopathy may be obtained from the writings of some of the more extravagant adherents of the homœopathic school, more especially of former times, is no doubt true ; and such a homœopathy is, we agree with Dr. Anstie, almost a mere antiquarian curiosity. But if so, why should he rake it up ? Why not speak of the homœopathy living around him and filling half his own pages, only with the name left out ? No doubt homœopathy has included, and may still include in its ranks, sectarian exclusivists and extravagant persons. But it is not with the grotesque creation of such persons that Dr. Anstie has to deal. The principles professed by Dr. Sharp and by us before him, and by the majority of the German school a generation before us, are what Dr. Anstie has to deal with. That these principles are what are professed by the great majority of the thinking and working homœopathists of this country is evident from the fact that the Congress of British practitioners of homœopathy, an open meeting of all qualified men practising homœopathy in the three kingdoms, have, during the last five years, chosen as their presidents by ballot three editors of this journal, besides Dr. Madden and Dr. Sharp.

Dr. Anstie tells us that homœopathy was necessarily doomed from the moment when physiology began to be successfully applied to the practice of medicine. We would say, on the contrary, that true scientific physiology is in fact the real cause of the presence and spread of the homœopathic theory. It is the only one of all the previous therapeutic theories that survives, and the only one that fits with modern physiology. Where are the rest gone ? What other theory but the theory of specific medicines to be discovered by careful proving on the healthy will fit the modern theory of the specificity and quasi-independent life of the separate organs and tissues of the body ? Certainly none ; and it is becoming palpable to all that the specific practice and single medicine are the only therapeutic method that is in accord with modern physiology. The *Practitioner* is full of demonstrations of this, though the editor pretends to believe that the modern representatives of the

homœopathic school believe and practise the grotesque burlesque of homœopathy that has been so often depicted by writers of the dominant school. Perhaps Dr. Austie really thinks that such is our belief, and if so, he of course will fail to perceive that the practice chiefly advocated in his own paper is really homœopathic.

We know for a fact that there is (or may we say was?) among medical publicists an organized conspiracy to ignore all writings of the men of science of the homœopathic school. It has been resolved not to review such writings, nor even allow them to be advertised in the periodicals of the dominant school. If we may be allowed to surmise how this illiberal treatment of members of our school by the literary organs of the dominant sect has come about we should say that it is because, having unfortunately committed themselves hastily to condemning the absurdities described as homœopathy by persons of no character, such as the author of *Homœopathy Unmasked*, the conspirators are forced to make good their dictum that none but fools follow homœopathy by stifling and ignoring anything better written by them. Why do they pass in silence Dr. Madden's brilliant essay, Dr. Reith's admirable and temperate statement of the true points of homœopathy, and Dr. Craig's, of Scarborough, essay on the position and limits of homœopathy? If the editors of the medical journals really wished to appreciate the subject why do they leave these and Dr. Sharp's writings wholly unnoticed? The answer is only too easy. They do not wish to give a true critique of the subject at all. They do not wish general practitioners and students to have a true knowledge of it, for such knowledge would contradict their tactics for years and convict themselves of misrepresentation and calumny. The medical booksellers are forbidden to sell scientific works on non-medical subjects by practitioners of homœopathy, and this exclusion is carried so far that books written by practitioners belonging to the homœopathic school are prevented from being noticed in scientific non-medical journals. Such is the solidarity of trades-unionism that has invaded a once honorable profession like medicine.

Dr. Anstie's conduct is simply of a piece with this conspiracy, and looks as if he too was influenced by trades-union pressure.*

What do we say Dr. Anstie ought to do? Ought he to swamp with mere controversy his journal which was started for the special object of improving and developing therapeutic practice? Certainly we suggest nothing of the kind. A disquisition like that of Dr. Ross was foreign to the object of his journal, and quite out of place in it; but having admitted it Dr. Anstie is in honour bound to admit equally free replies from persons who have been misrepresented by the author.

An editor has no right to admit into his journal a misrepresentation of homœopathy and refuse a reply in correction of the misrepresentation. To argue whether the doctrines and practice of homœopathy are right or wrong is another question, and would, in our opinion, be out of place in a journal like Dr. Anstie's. But even that could not be so out of keeping with the implied character of the journal as devoting so much space to hygiene and public health. This, we think, will do more to swamp the *Practitioner* than doing justice to us would.

Though we do not wish to see the *Practitioner* filled with theoretical controversy, we confess we should like to see it allowing its contributors to write truthfully and honestly, and not encouraging or even compelling plagiarism. Why should papers on individual medicines be truncated of all that relates to their homœopathic discovery and use? When some (to the allopathic sect) new remedy is written about that has proved useful in some diseases, that the knowledge of its use was notoriously derived from homœopathic sources, is carefully suppressed in the *Practitioner*, and it is made to appear as though its discovery and use were purely empirical. The recent paper on *Phosphorus* by Mr. Ashburton Thompson is one

* Quite lately some hopeful signs have appeared in some of the medical journals that those who conduct them are attempting to throw off the yoke of this trades-union rattening, which must be very galling to honourable and honest-minded men.

of a whole class. It gives positively no new information to the homœopathic school, being just what we have known and been in the daily habit of doing for years. Mr. Thompson ascribes its discovery to Mr. Bradley, whereas that gentleman, so far from taking the credit of its discovery to himself, distinctly says that he was taught its use by a homœopathic practitioner. In Mr. Thompson's paper every word relating to its use by the homœopathic school and to the theory on which its specific powers were found out is carefully omitted.

This is what we call want of courtesy in action that cannot be made up for by any courtesy in words. A journal in which such things are the rule cannot be considered scientific or philosophical, but is, in fact, the organ of a clique or sect.

A few words in conclusion respecting the remedy which Mr. A. Thompson found more or less successful in the treatment of neuralgia.

Phosphorus was first systematically proved on the healthy body by Hartlaub and Trinks and by Hahnemann, about the same time, viz. 1828. Since then it has appeared in Hahnemann's *Materia Medica* and in Noack and Trinks' *Manual*, and is in the hands of every homœopathic practitioner, and is in daily use. Its action in neuralgia was deduced from the above provings, and it is in consequence regularly used by the homœopathic school in facial and visceral neuralgia, and neuralgia of the trunk, and in sciatica. The preparation recommended in Noack and Trinks' handbook is the alcoholic or ethereal tincture in the dose of one to two drops of the tincture. It is also recommended for external use in the form of liniment composed of one grain of *Phosphorus* to one ounce of *Olive oil*. These are among the ordinary things in daily use with the homœopathic school, numbering several thousands of educated medical men, for the last twenty or thirty years.

Contrast this with Mr. Ashburton Thompson in the July number of the *Practitioner*. He gives us to understand that *Phosphorus* was not known to be of use in neuralgia till Dr. C. B. Radcliffe cured some cases in 1863 with

Hypopnospbite of Soda. (This has, of course, nothing to do with *Phosphorus*, properly speaking.) Then that Dr. Anstie failed to cure neuralgia with *Phos.* in 1871, while in 1872 Dr. Bradley succeeded in making some cures with it. Mr. Ashburton Thompson then tells us that as the result of his seventeen cases the best form for dispensing is the alcoholic tincture.

The readers of the *Practitioner* thus have learned that *Tincture of Phosphorus* cures some cases of neuralgia. But in this article there are a few things the readers have *not* learned. First, they have not learned that all that Mr. A. Thompson says has been the daily practice of practitioners of our school for years, and that Mr. Thompson knows this, for Dr. Bradley, from whom he copies, stated the fact at the time that it was in consequence of seeing the success of it in homœopathic hands that he tried it. Why is this concealed and the biography of *Phos.* thus truncated at some point where it was openly copied or secretly plagiarised from the homœopathic school?

When we entered the medical profession it was held that honour and conscience should guide the medical practitioner in all his professional career, but now it seems that plagiarism, which is a violation of this, is not forbidden, if, indeed, it is not enjoined, before writings on medicines can appear in the *Practitioner*. We do not know the secret history of this article, but judging from the uniform exclusion of the word homœopathic from papers in which the thing palpably obtains, we should think it likely that Mr. A. Thompson might have intended to give the true history, but was prevented by the editor. We do not know how this is, but the result is not honourable to either, because no doubt they both know the fact of the source of Dr. Bradley's knowledge.

Again, we see here nothing but the most blank empiricism taught in the *Practitioner*. All the author teaches is that "*Phos.* is good in neuralgia," and accordingly he gives it straightway to the first dozen and a half cases that turn up; some get well and some do not, just as would happen with any old woman giving medicine out of a herbal. This we are given to understand is the outcome of thera-

peutic science in 1873, of those physiological principles which are to compel Dr. Sharp to "abandon homœopathy."

If Mr. A. Thompson will copy a little more from homœopathy we venture to assure him that unfortunately our power of hitting the exact forms of neuralgia to which *Phos.* is specific is far from as complete as we wish yet. Still he will find some rules and laws which will guide him *à priori*, and not be forced to stumble on blindly in the blank empirical fashion he has done. But we warn him that if he does find these rules he will not be allowed to state them in the *Practitioner*. He will there be told he is an antiquated theorist, and his notions are incompatible with true physiology; he will also be turned out of the Royal Obstetrical Society and the Maternity Charity.

CASE OF SEPTICÆMIA, WITH REMARKS.

By Dr. R. D. HALE.

(Read before the British Homœopathic Society.)

I HAD hoped to give to the Society several cases illustrating one class of disease, as I did on a former occasion, but not having the same opportunities on this occasion I am obliged to present to you a single case. There are some interesting points in connection with this case which appear to me to be well worth discussing, but of that you will be the best judge.

As a sort of introduction to the case I have thought a few observations, touching what I might call medical evidence and dwelling a little upon some problems which force themselves nowadays upon any thoughtful physician, would not be out of place. We live in a sceptical age, where every statement of what are called facts is criticised, and I think it is well that we homœopaths should be prepared for this criticism both of friends and foes. I have

endeavoured fairly to give you the cases just as they are found in the rough notes taken at each time of going round the wards, adding by way of explanation, that owing to the really arduous duties Dr. Wardale, as house-surgeon, has to fulfil, it is quite impossible to take notes of each case with that precision and completeness which one would desire. Had we clinical clerks to take careful notes it would be different, and a much more satisfactory record of cases could be offered to you than these can possibly pretend to be, and this is the more to be regretted when we consider how much depends upon a clear and accurate description when investigating disease, which we know is accompanied by phenomena intricate, complicated, and often mysterious. In many cases how shadowy is the boundary line between normal and abnormal action, how difficult to determine when and how functional disorder passes into structural disease, and probably the most difficult of all problems to solve is the ultimate nature, the cause, or the origin of the disease. We often, alas! see the result of the destructive process, how seldom are we enabled to detect or determine its first beginnings. For example, take the case of any acute disease in what we call its earliest stage or manifestation; we say there are such and such symptoms and here are such and such physical signs, but if we are asked to describe or even imagine what occurred in any tissue or cell at the first dawn of departure from healthy action, we cannot say. The histologist will, perhaps, reply, "Observe these epithelial cells, they have lost their normal appearance, they are being detached from the basement membrane, their protoplasm has become altered in shape, colour, or consistence; what you see is the very beginning of such or such a disease." Most interesting is all this, but what was the condition of things antecedent to the changed protoplasm, &c. ? He cannot tell; then we humbly say you do not know the first initiatory change. The histologist is feeling for it if haply he may find it; but it still lies amongst the unsolved mysteries which art has not yet revealed to our seven senses; they will, however, be revealed as time goes on and as the

student of nature goes on working and waiting for more light and deeper knowledge. It may here be questioned, What has this to do with cases from hospital practice? Much every way; for the more closely disease is studied the more subtle influences which are at work are recognised; the more the results of treatment are fairly and honestly watched, the less inclined will any physician be to confess how little is really yet known of the marvellous organisation it is his mission to study and to minister to, the less disposed will he be to dogmatise about the little he does know, or to indulge in wild and unprofitable theories about what he does not know, the less often will he talk of cure, the more will he modestly use the word recovery. I do not say he may not sometimes honestly speak of cure; he can cure scabies by killing the *acarus*, but a fever or a pneumonia recovers because under favorable conditions and the administration of medicines, which, speaking homœopathically, are the *similia* of the diseased conditions present, the equilibrium which we call health being restored either by the *vis medicatrix* according to one theory or according to another by the organic forces moving in the direction of health.

The question then arises, and is one of supreme importance to us as homœopathists—What influence, if any, has medicinal treatment upon disease? Is not the tendency of disease towards cure if left to nature? Can we, as homœopathists, prove that our remedies have any influence whatever in altering the character, lessening the severity, or shortening the duration of any disease under the sun? Is it not now well known and acknowledged by so many of advanced thinking that to cure by the administration of drugs is a mischievous fallacy, that patients will get well more quickly if let alone, and that any treatment, except what is simply hygienic, is useless?

Now, gentlemen, if we granted these premises the conclusion would be unanswerable and the achievements of Hahnemann and his disciples would prove to be a monstrous delusion. But do we grant the premises? Certainly not.

Is the natural tendency of croup, or peritonitis, or iritis, or cholera, or acute laryngitis, or meningitis, to spontaneous cure or recovery? will any medical man of any experience confirm it? he cannot honestly do so; yet these are the very diseases in the treatment of which homœopathy can boast its most signal triumphs. In the controversy with our opponents much has been made by them of the remarkable success that, under Dietl, Skoda, and others, followed the purely expectant treatment of pneumonia; and from this fact and others of somewhat similar kind the present very shaky superstructure of medical scepticism has been built. But even allowing that *pneumonia* left to itself will get well, what I contend for is this—that as homœopathy has over and over again arrested the progress of diseases which would, *à priori*, have proved fatal, it is fair to assume *à fortiori* that it can and does bring about the speedy recovery of the less fatal diseases. If, as we know, it can arrest the exudation of lymph in membranous croup, it is fair and logical to infer that it can prevent the pneumonic lung from passing into red hepatisation, the red hepatisation can stay its progress into grey hepatisation. Examples like these might be adduced *ad infinitum* were it necessary to strengthen my argument.

But, gentlemen, allow me to say that it would not be wise in us as homœopaths, nor would it be advancing the cause of truth while contending for the faith that is in us, to ignore or shirk the acknowledgment of certain facts which the history of medicine and our own individual experience has taught us, for if we do we shall be in danger of over-estimating the power of drugs and undervaluing the *adjuvantia* and the other circumstances which aid in the cure of disease. Speaking for myself I would remark, and many of those I address who have had some years' experience will agree with what I say, that the results of homœopathic treatment in chronic cases have not of late years appeared so brilliant as in the early days of our conversion. The explanation of this is patent to most of us, and I need scarcely say it is because we do not now meet with nearly so many cases as we did then of drug disease, and it is but

right, that knowing this, we ought not to claim too much for homœopathic success either in the past or in the present, where we can trace improvement to be simply the result of leaving off a pernicious system of drugging.

Another explanation of the apparently more brilliant cures which we could boast of some thirty years ago rests upon the fact that homœopathy has had such a wide-spread influence on the practice of the old school that not only is there less drugging, but there cannot be a doubt that homœopathy is, consciously or unconsciously, practised by a much larger number of medical men who are not declared homœopaths than the public have any idea of. Again, there is much less domestic drugging, and the allopathic treatment of the present is among enlightened medical men, on the whole, much more rational and less destructive than it used to be, and I may add that the rising generation have escaped much of the injurious medication prevalent in the time of their fathers and grandfathers. As a set off against this improved state of things we now meet with increasing numbers of the mischievous effects of the frequent nips and "pick-me-ups" indulged in, I am sorry to say, by both sexes, and the increasing consumption of tobacco by young men and even boys. Allowing, however, for all the causes I have enumerated to account for the less striking cures of the present day, we can still boast that homœopathy in the length and breadth of these islands, and over a considerable portion of the civilised world, is doing good solid work in curing disease and relieving suffering, and if it should not advance and spread in the future as it has in the past, I am convinced the fault will not lie with the *principles* of homœopathy, but will be owing to a departure from those principles by those who profess to be guided and governed by them.

Sophia G—, æt. 38, admitted into the London Homœopathic Hospital, November 27th, 1872. Has for the last few weeks been a nurse in erysipelas wards of the London Hospital; had been attending to some severe gangrenous cases.

A week before admission had a rigor which was followed by swelling and inflammation of right hand. She felt very ill, and kept her bed for two days, after which she returned to her duties in the wards, while still suffering from loss of appetite, prostration, pain in back, and nausea.

Gradually became worse, and on the 27th was admitted into this Hospital, suffering from extreme prostration, pain in back, &c., with a temperature of 104° . There was great pain in the left mamma, which was red and swollen and tender to the touch.

After admission the left breast continued to enlarge, became of a rosy-red colour and very tender, and was accompanied by swelling of the axillary glands.

November 27th (day of admission).—Temperature 104° . Ordered *Acon.* 1^{\times} gtt. j every two hours. Second diet—beef tea and milk.

28th.—Temp. at 10 a.m. = 102.4°

„ „ 5 p.m. = 102.4 Pulse 112.

„ „ 12 p.m. = 100.4

Was ordered *Bell.* 3^{\times} gtt. j two hours. A teaspoonful of brandy to be given every two hours.

29th.—Temp. at 10 a.m. = 100.4° Pulse 92.

„ „ 2 p.m. = 102

„ „ 6 p.m. = 102.6 Pulse 120.

„ „ 10 p.m. = 102

The brandy was increased to zj every two hours. Pain in breast and axilla very bad.

30th.—Temp. at 7 a.m. = 100° Pulse 100.

„ „ 10 a.m. = 101.6

„ „ 2 p.m. = 102

Was ordered an egg beaten up in milk in addition to the beef tea. Milk, &c., brandy continued as before.

December 1st.—Temp. at 10 a.m. = 100.6°

„ „ 2 p.m. = 101.6

„ „ 10 p.m. = 101.2

2nd.—Temp. at 7 a.m. = 100°

„ „ 10 a.m. = 100 Pulse 92.

Patient decidedly better. Bowels constipated. Pain much less.

3rd.—Temp. at 10 a.m. = 99·9°.

The improvement continued. The breast, which had presented the usual appearances of simple erysipelas, had been kept well covered with cotton wool and powdered with starch, and was now less red, and not so tender to touch.

The temperature had fallen gradually since admission, having a daily maximum about 6 p.m. and a daily minimum in the early morning. There was considerable constitutional disturbance, tongue being dry and brown; bowels constipated, appetite gone, and great prostration. *Bell.* 3^r had been continued the whole of the week; ʒj of brandy occasionally.

4th.—This morning had a rigor which, although not very severe, lasted nearly two hours.

Temp. at 10 a.m. = 104°

„ „ 12 a.m. = 103·6;

after which it continued to fall, being 101·5° at 2 o'clock the next morning.

The breast was now found more swollen and painful, and fluctuation could be plainly detected. *Acon.* 1^x, gtt. j, every half hour, was given for several doses, the brandy being at the same time increased in quantity (ʒj doses).

5th.—Patient better. Temperature—

<i>Lachesis</i> 6 gtt. j,	}	101·8° at 2 a.m.
four hours.		102·6 „ 10 a.m.

Patient continued to improve until on the morning of the 7th the temperature had fallen to 99·6. The breast was treated with poultices, and extra beef tea was ordered.

7th.—Had a severe rigor at 6 p.m.

Temp. at 6.30 p.m. = 104° Pulse 124.

„ „ 8 „ = 104·8

„ „ 9 „ = 105

„ „ 10·15 „ = 104·6

„ „ 12 „ = 103

8th.—Temp. at 3 a.m. = 102°

„ „ 10 „ = 100·2

During this paroxysm drop doses of *Acon.* 1^x were given every half hour, and ʒij doses of brandy at the same in-

tervals. When the temperature was at its highest there was delirium and unconsciousness.

This paroxysm was followed by great exhaustion, and two distinct abscesses were discovered in the outer wall of the axilla. These were poulticed. *Arsenicum* 3^x, gtt. j, 2dis horis was prescribed.

Patient continued to improve, and fluctuation becoming more distinct, *Hepar s.* 3 gr. j, was given 4tis horis on the 12th.

On the 15th the abscesses broke and continued to discharge until the end of the month, the *Hepar s.* being continued, and patient daily gaining strength. The diet was fish, custard, egg, milk, beef tea, and port wine.

On January 6th there was another rigor, which was followed by a rise of temperature to 105°. Patient was given *S. L.* as a placebo, and was treated with brandy only, ʒij every hour. The temperature fell at the rate of half a degree every hour, and having reached the normal remained there without further rise.

The exhaustion after this paroxysm was much less than on previous occasions, and no fresh collection of pus could be discovered.

Crotalus 3 was then prescribed, and patient steadily improved, being discharged *cured* on February 7th; *China* 2 having been given during the last few days of her stay.

Remarks.—The interest that attaches to this case is chiefly derived from the oscillations in the temperature through the greater part of the attack. This with some other symptoms caused the case to resemble pyæmia. Rigors severe in character were very marked symptoms, depending no doubt, in a great degree, on the formation of pus, but considering that a severe rigor followed by very great prostration of strength ushered in the attack, another cause was in operation producing the rigors, and that cause was, I believe, septic matter absorbed into the system, poisoning the blood and producing a shock to the nervous system, as shown by the great prostration. It was curious to observe the remarkable readings of the thermometer in

this case and the effect of the administration of brandy alone upon the temperature. Upon one occasion when there was a sudden rise of temperature from 99.6° to 104° Dr. Wardale gave *Aconite* 1^r every half hour and ʒij doses of brandy at the same intervals. A steady decrease of temperature followed, but inasmuch as *Aconite* and brandy had been given simultaneously I could not arrive at any conclusion relative to either. I therefore determined that should another rigor followed by rise of temperature occur I would give brandy alone, being cautious to observe what would happen, and you have just heard the result, which you will probably have remarked was similar to what took place when *Aconite* and brandy were given, but with this important difference, that the subsequent exhaustion following the paroxysm was much less.

Did time permit, it might be interesting to speculate upon the cause of rise of temperature in this and similar cases; indeed, such is always the case whenever there is either idiopathic or symptomatic fever present. Suffice it to say, that there are theories which attempt to explain the phenomena. One is that rapid oxidation and waste of tissue take place with evolution of heat and subsequent exhaustion of nervous energy, as shown by the prostration. This explanation seems simple at first sight, and from its very simplicity satisfies many, but I think we must go rather deeper into the matter in order to understand the phenomena. Dr. Lionel Beale, I think, with some force objects to the oxidation theory, and says that it is negatived by the fact that the temperature sometimes rises most rapidly for some hours *after* death has occurred, and when the organs concerned in effecting oxidation have ceased to act. Dr. Beale thinks that the rise of temperature occurs at the moment when non-living matter becomes living. This appears to me to be inconsistent with his former statement, that rise of temperature takes place when the organs concerned in effecting oxidation are dead. I have not been able to refer to any modern views on this interesting subject except those I have quoted from Dr. Beale. I have an idea that Dr. Drysdale has gone into the question

in several papers he has contributed to the *British Homœopathic Journal*, but I am ashamed to say I have not yet read those articles. This is a question having a very practical bearing, or I should not think it right to occupy the time of the Society with any further observations of this nature, but I would venture to submit some considerations to you, more with the view of eliciting some useful discussion than pretending to possess any special knowledge or originality of thought. I would therefore submit one or two such questions as the following :—Knowing as we do, that septic matter introduced into the organism seems primarily to cause changes in the condition of the blood, is it not probable that the first change takes effect upon the white corpuscles, which we know are the active agents in the formative processes going on in the tissues, and the change produced is a destructive one, and that the heat which potentially would have energised the protoplasm of the white corpuscles, instead of being used according to the theory of the conservation of force, is set free, and thus while the temperature of the body is raised above the normal standard, new protoplasm is not found sufficient for the needs of the organism, but the molecular and chemical changes continuing abnormal disintegration goes on, the body wastes, and owing to a combination of these factors prostration is added to the wasting.

Now, can we derive any practical good in the application of our law from such a theory as I have endeavoured very briefly, and I fear very imperfectly, to have broached? I think we can, and for this reason, that my conviction is that the more we learn what is going on deep down in the human organism, the more we recognise the importance of understanding the existence and operations of the molecular forces by which the ultimate structures of the organism are moulded and energised in health or paralysed or disintegrated in disease, the nearer we shall be not only to a scientific and true comprehension of the *modus operandi* of our remedies, but, what is still more important, we shall possess a more satisfactory principle of therapeutics than the mere enunciation of the law *similia similibus*. That law I

believe in as firmly as ever, but I believe more and more, that in every discovery made in the direction indicated by these remarks touching molecular motion, the reasonableness of that law and the reasonableness also of the fractional and infinitesimal forces which we employ, will become more and more evident.

It would be hasty and presumptuous from the little we do know about protoplasm or bioplasm, or periplastic matter or the molecular forces acting in and upon these, to apply with precision as yet any definite principles to practice, and yet I think, as in the case before us, we may venture this much, putting the matter in a form of a problem. Given poisoned blood-corpuscles, dead and dying formative protoplasm which has ceased to be constructive, and liberated heat which has ceased to be potential, what remedial measure will meet and arrest this abnormal condition of things?

Homœopathsists may, I think, reasonably answer, let it be granted, as it is granted, that septic matter is competent to produce certain phenomena which we call fever. We affirm that other matters called drugs, or, again, still different matter called stimulants, do in large or poisonous doses, as in the case of septic matter, give rise to a morbid condition called fever; and, as a matter of every day experience, we know that these same drugs and stimulants introduced into the system in small doses do arrest or modify destructive symptoms, and if we are asked *how* they so act we had best say at once we do not know; but we offer this hypothesis, the small dose of *Aconite* or brandy we suppose arrests in the case before us, for example, the breaking up of the blood-corpuscle, and its protoplasm, instead of dying, uses up the potential heat which otherwise would become sensible to your thermometer, a fresh supply of pabulum in the shape of suitable nourishment is given, and the patient is saved. We homœopathsists tell our opponents that we honour our long-cherished law, which perhaps we may not care to formulate when both they and we, as time goes on, and the hidden mysteries of nature are more fully revealed, will recognise a higher law

which will then be common to us both, and we shall be again united in a common brotherhood with a common faith.

Discussion on Dr. R. D. Hale's paper.

Dr. YELDHAM remarked upon the indefiniteness of the title of the paper just read, and upon the advantage it would be to members if authors would be more precise and full in the titles of their papers, so that members might have some definite idea beforehand of the subject they were going to discuss. At present authors seemed to shroud their papers in studied mystery until the moment of reading them, as if their object was to puzzle and not to instruct their hearers. He trusted their excellent and energetic secretary would find a remedy for this. Referring to the paper just read he said, as to the fall of temperature after the administration of brandy it appeared to him to admit of ready explanation. Waste of tissue, whether from want of nourishment or febrile action, induced irritability and heightened temperature; food in any form, whether of alcohol or even cold water, was sedative, and tended to quiet the nervous system, calm the pulse, and lower the temperature towards the natural standard. Then, again, after rigors such as Sophia G— had, there was always febrile reaction and elevated temperature, which after a while naturally subsided towards the normal level. It was difficult to say what part the brandy played in the case in question in lowering the temperature; but, for himself, he should attribute its effects mainly to its nutritive and sustaining properties. As to the rigors he would ask whether they might not have been caused by the extension of the original abscess, and also why the abscess was not punctured?

Dr. BAYES said that Dr. Hale's case, and also his most interesting introductory remarks, gave much food for thought and discussion; but while agreeing in the main with what Dr. Hale had urged he must take some exception to his assumption that our success is either absolutely or relatively less than it was in the early days of our practice. Without wishing to be egotistical or self laudatory he (Dr. Bayes) claimed that his success now was greater than it was in former years, and, indeed, it would be strange and inexplicable were it to be otherwise. The workman becomes more expert by long practice with his tools, and with the physician the same rule should hold good. Passing on to a consideration of the case of septicæmia, the question which arose was, how far was the brandy the true cause of cure? In the fourth access of the disease, where brandy alone was given, the temperature (which was higher than it had been

before) became more speedily lowered and the pulse became more rapidly tranquil than in any of the three previous accessions. The brandy appeared to him (Dr. Bayes) to have been given most judiciously, and the effect was marked and brilliant; two teaspoonsful of brandy given every hour, until three ounces were taken in twelve hours, lowered temperature and pulse to the natural standard. It occurred to him (Dr. Bayes) that probably the good result was owing to the gentle nerve stimulation of the alcohol and to its also having entered the blood and having there destroyed the morbid organic poison.

Mr. KYNGDON merely wished to make a remark on Dr. Hale's statement that we did not now meet with the same number of brilliant cures of chronic disease as was the case some years ago. We must remember that when we first emerged from allopathy we used our new remedies doubtfully; we hoped for success but hardly dared to expect it; and when marked and striking effects followed their employment, we were as much surprised as gratified, and regarded all our successful cases as brilliant cures. But now as years pass by we get so accustomed to the effects we expect to follow the use of the medicines that we are no longer startled by brilliant cures, but take them as matters of course.

Dr. DUDGEON observed that all the speakers had carefully avoided that portion of Dr. Hale's paper which showed the greatest labour on the author's part; he alluded to his well-reasoned views on the causes of febrile heat. But it was impossible that they could on such an occasion discuss these views, as it would require more attention than could be given to a mere *viva voce* reading to thoroughly comprehend, far less to criticise such an elaborate theory. The difference betwixt Dr. Hale and Dr. Bayes, with reference to the greater or less success of homœopathic practice nowadays, might, he thought, be reconciled by supposing that Dr. Hale referred to the practice of the average homœopathic practitioner, which seemed to be decidedly less careful and more routine, and therefore less successful than that of the earlier homœopaths; whilst Dr. Bayes referred to the later practice of the individual practitioner, and none of them, he believed, would admit that their practice now was less successful than it had been when they first commenced homœopathy. The fact of alcohol causing a lowering of the temperature in the febrile states was noticed in the treatment of cases of phthisis in the St. James's Homœopathic Hospital, at Paris, where the administration of brandy to the verge of intoxication was always attended by a fall in the patient's temperature.

Dr. HALE (in reply) did not in the least mean to say, as Dr. Bayes supposed, that our practice at the present day was not in the main as successful as it was twenty or thirty years ago. What he meant to convey was that our cures were not apparently so brilliant as in those days, and for the reasons so well expressed by Mr. Kyngdon. Besides, the simpler and less destruc-

tive allopathic practice of the present day caused a diminution in the number of those cases which under the homœopathic treatment formed such a marked contrast in the striking results obtained. Dr. Hale regretted that, owing to the nature of the subject and he feared probably from not having more clearly explained the views he had ventured to submit on a subject only just commencing to engage the attention of the profession, he had failed to elicit a more full discussion upon the question which formed the chief subject of the paper he had the pleasure of reading to the Society.

SOME OF THE NON-MEDICAL DUTIES OF THE PHYSICIAN.

By JOHN W. HAYWARD, M.D., M.R.C.S., L.S.A.,
Vice-President of the Liverpool Architectural and Archæo-
logical Society.

(Read before the British Homœopathic Society.)

MR. PRESIDENT AND GENTLEMEN,—Of papers on diseases and on medicines you have had many, of papers on surgery you have had a few, but of papers on purely sanitary science I fear you have had scarcely any ; I beg, therefore, to present one for your consideration this evening, because I believe sanitary science is scarcely of less importance to the medical man, that is, to the general practitioner, than is the surgical, the medical, or the therapeutical science.

The medical man's duty does not consist solely in the diagnosing of disease, medical or surgical, or in the prescribing of remedies, therapeutical or mechanical ; it does not begin only after the invasion of disease, nor does it consist solely in the curing of disease or in helping the public to recover from it ; it embraces many other points. It is as truly a medical man's duty to prevent disease as it is to cure it ; and in order to do this he ought to be the embodiment of sanitary knowledge and *par excellence* the advocate of sanitary measures and promoter of sanitary

science. A medical man would certainly fail in his duty if, when attending a patient in smallpox, cholera, or typhoid fever, he were to neglect or were unable to instruct the attendants how to prevent the spread of the disease. But of what use, it may be said, is such instruction when it is impossible to carry it out? And this is unfortunately the case in most houses. One of the most effective and important preventive measures, as you are aware, is free ventilation of the patient's bedroom. But how can this possibly be obtained in the present badly constructed bedrooms? It is simply impossible to get it without risk of producing worse evils than those of want of ventilation. A medical man would also fail in his duty if, when consulted as to the management of a young lady threatened with phthisis, he were to neglect or were unable to advise as to the avoidance of cold draughts and cold lobbies. But how is it possible to avoid exposure to these in the present badly constructed houses? *It becomes, then, a part of every medical man's duty to advocate and promote a better construction of houses.* It is thought by some persons, and I fear by some medical men, that house-building belongs exclusively to the architect; this is, however, a mistake, for inasmuch as houses are for the residence of human beings, and badly constructed houses injure health and induce disease, and often render mild diseases severe and curable diseases incurable, house-building becomes a matter of interest and importance to the medical profession, not less so indeed than to the architectural. House-building is in fact a point where the duties of the architect and the physician meet and combine; and it is therefore necessary that architects and medical men should occasionally discuss together the various requirements of this art. In December last the medical profession was forcibly reminded of its duty in this respect by an architect writing to the *Lancet* and to the *Builder*, and by Mr. Rawlinson writing to *Fraser's Magazine* and to the *Times*. Mr. Rawlinson, in his letter to the *Times*, writes: "If medical men will pardon my impertinence, I venture to say that they do not in all cases act boldly. They know that a warm and stuffy atmosphere

is liable to be injurious, but they do not always insist with all possible energy to have the evil removed, that is, to have full and free ventilation." And Mr. Aitchison, in his letters to the *Builder* and *Lancet*, says, "No greater benefit could be conferred on mankind than the teaching them the necessity of ventilation, but that lesson is more likely to be learnt if it comes from the doctor than from the architect. Until the faculty can convince the people that their life is shortened and serious diseases are brought on by want of ventilation, architects have no chance." The eyes of the community at large are then turned towards the medical profession for protection, provision, and instruction in this matter; and it will be well for us, in our own interest as well as in the interest of the public, to qualify ourselves to meet this public demand.

Now, there are many points of importance in house-building; such as the position, the aspect and prospect, the foundation and drainage, the number, size and position of the windows, doors and fireplaces, &c.; but there is certainly none of equal importance to that of VENTILATION; ventilation is, in fact, the prime and main necessity of house-building; whatever else may be left undone this should be attended to; whatever else may be left imperfect this should be made perfect and complete; and it should include the whole house, and should be self-acting and inexpensive. It should, I repeat, be perfect and complete, include the whole house, and be self-acting and inexpensive.

It is the architect's province to provide dwellings for the people and to see that they are made protective and safe, but it is part of the medical man's duty to see that they are made healthy and comfortable. In planning a house architects cannot be expected to provide specially for the health of the occupants; their province is to build a residence and to display the resources of their own art, and they cannot be expected voluntarily to undertake the extra and, to them, the superfluous trouble and risk of providing for flues and tubes for ventilation, which also involve extra expense, except under the pressure of medical and public opinion—except under the certainty that they are absolutely

necessary arrangements involved in the plan of every house ; and they cannot be expected to be so convinced or the pressure of public opinion be brought so to bear except by the efforts of the medical profession. It becomes, therefore, a part of the duty of the medical profession to take every opportunity of influencing the architectural profession in this direction. But there is also a third party—a party besides the medical man and the architect—interested in this subject, namely, *the public*: the public have, after all, the yea and nay in this matter ; it is indeed for them that these arrangements are to be made, and they are the paymasters ; whatever extra cost is involved it is the public that will have to pay it, and it is of little use the doctor proving the necessity, or the architect designing the arrangements, unless the public be persuaded to adopt them and pay the cost involved. That the public can be thus persuaded I have no doubt, but that this will take some time I am quite ready to admit. It will take some time thoroughly to educate the public into the absolute necessity for special provisions for ventilation, because they have hitherto been left under the impression that special arrangements for ventilation were unnecessary and superfluous, or that they were impracticable, or at least were incompatible with warmth and comfort ; and, I am sorry to have to add, that they have been encouraged in this impression by many architects and engineers ; and that medical men have not protested with sufficient force and intelligence. Medical men have gone on from generation to generation silently mourning the resulting evils of the want of efficient and practicable means of ventilation ; and architects have continued to design houses with very little regard to these absolutely necessary provisions, whilst the public have submitted, and if they have not thought it was all right, they have at least thought that the evil was quite beyond their remedying, for that every non-professional (if not also every professional) attempt hitherto made had only ended in failure, disappointment and loss of money.

The first duty of the medical and architectural professions now is to make amends for this, to admit their past culpa-

bility, and promising better for the future, proceed at once and vigorously to instruct and educate the public into the absolute necessity there is for ample ventilation in every house and every room, and to show them that such is not only possible and practicable, but it is also compatible with warmth and comfort, indeed conducive to these. Let medical men take every opportunity of pointing out the evils of the want of ventilation and of illustrating them by the conditions of the houses and rooms into which they have to go every day, and the foulness and stench to which they have to submit; and let them make themselves acquainted with the merits and demerits of the various plans that have been proposed and adopted, and settle in their own minds on some successful and uncostly method of ventilation and warming. And let architects make up their minds never in future to design any house, large or small, without introducing special arrangements for efficient ventilations, and let them do this as a matter of course as they would flues for smoke and passages for drainage; and if their clients object to the cost, let the architects explain the absolute necessity just as they would the necessity of stairs, doorways, and chimneys. Unless some such plan as this be adopted the public will continue to object to the expense. As things are at present what can physicians do? We cannot insist on a patient's bedroom being ventilated when that cannot be done except with air that would itself kill the patient. In ninety-nine out of every hundred houses in this country bedrooms open directly out of the stairs' lobby, and this opens directly to out of doors, without even the protection of a vestibule door, so that every time the outer door is opened there is a rush in of the outer air and the whole air of the lobby is reduced to nearly the temperature of the outer air, which in winter will perhaps be below 28° Fah., and there is no provision in the lobby for raising it any higher; stairs' lobbies probably range in frosty weather about 35°, and at this time there is necessarily a fire in the patient's bedroom, and in all probability the bed has to stand between the fireplace and the doorway. Now, the fire requires at least 600 cubic feet of air

each minute, and this it must obtain either from the stairs' lobby through the doorway, or from the outer air through the window opening, and the outer air will at this time be not higher than 28° . Now, the temperature of the patient's body will be 98° or 99° ; imagine, then, the evil effect of exposing him to a current of air at 28° or 35° ! Of course chill must be produced, and then there will most probably follow neuralgia, rheumatism, inflammation, &c. But patients are of necessity so exposed, to a certain extent, in about ninety-nine out of every hundred houses in this country, either by the fire drawing air in or by the rushing in that takes place when the door is opened, and imagine the danger of having the door or window permanently open at such a time! The result might be fatal to the patient, and would be sure to be injurious to the attendants. A medical man cannot, indeed he dare not, order the door or window be kept open under such circumstances, however much he may feel the necessity of fresh air; of the two evils he must choose the lesser, for it is better that the patient's recovery should be retarded by foul air than that he shall be killed outright by cold draughts, and it is better that the attendants shall have to leave the room occasionally for fresh air than that they shall be shortly laid up with rheumatism, neuralgia, or inflammation. According to the last published annual report of the Registrar-General asthma and consumption alone caused in England itself 18,125 deaths; and I have not the slightest hesitation in saying that a very large proportion of the cases of these disease have their origin, and still more certainly their obstinacy and incurability, in this vicious construction of bedrooms. Most persons occasionally take cold, and in the majority of cases the cold falls on the respiratory organs, in one case as influenza, in another as sore throat, and in another as bronchitis, or pneumonia. Now, in each of these instances the temperature of the air respired affects very materially the progress of the case, and even determines whether it shall be mild or severe, or indeed whether it shall be curable or fatal. In acute bronchitis the temperature of the air respired should never be lower than 65° ; but how is it

possible to obtain this temperature in ordinary bedrooms in winter, which is the time when bronchitis is most prevalent ? And even when it is obtained in bedrooms by well-fitting doors and windows and large fires, matters are not much better, for the very effort to obtain warmth excludes fresh air and subjects the patient and his attendants to the evil of foul air.

As before stated it is to these unpropitious bedrooms that may be attributed very many of the cases of consumption, bronchitis, and asthma, and indeed of heart disease, for heart disease, as you know, is one of the results of chronic bronchitis and asthma. In fever cases much fresh air is required, and sometimes every endeavour is made to obtain it, even by opening the doors and windows ; this is, I fear, frequently the reason why typhoid patients sometimes suffer from bronchitis, and why typhus patients sometimes suffer from pneumonia, and why some cases of rheumatic fever are prolonged and complicated ; and which, notwithstanding all our care, we cannot prevent, because of this defective construction of bedrooms and even of hospital wards. But it is not in bedrooms only that cold draughts are pernicious, they are almost equally so in sitting-rooms, in which, as Mr. Rawlinson puts it, "persons may be roasted on the one side and frozen on the other," which subjects them to neuralgia, rheumatism, colds, coughs, asthma, consumption, &c. ; and the cold lobbies assist materially in bringing about these evil results ; in fact, the evils resulting from the defective construction of ordinary houses are a crying appeal to the medical profession to take up the subject vigorously and in earnest.

Now, bad as are the evils that result from cold draughts through doorways and window openings, in both health and disease, the evil results of preventing these by having tightly fitting doors and windows are infinitely worse. Of course we are all familiar with the results of a fish being out of water, or in impure water ; well, exactly the same results follow to human beings when out of air or in impure air. Death by drowning is nothing more than an effect of man being out of air ; and death by charcoal fumes is only an

instance of the results of excessively impure air. Now, human beings themselves burn charcoal, or, what is the same thing, carbonaceous compounds, in their food; and pollute the air with the very same poisons as burning charcoal does, and they also produce other impurities besides, such as sulphuretted hydrogen, and other poisonous gases; also particles of organic matter, warm, moist, and in a state of decomposition, being given off from the lungs, stomach, bowels and skin. The quantity of deleterious gas and watery vapour thrown into the air of a room by one adult person amounts to something like four gallons and a half per hour, and contains suspended in it something like three quarters of an ounce of solid matter, and this from each healthy person into all rooms; but from patients in bedrooms there are also other impurities, such as evaporated urine and stool, &c., which are exceedingly injurious in some cases, for instance, in typhoid fever and cholera, and the secretions and excretions of patients in infectious diseases are all extremely injurious; one whiff of the breath of a diphtheria patient has been known to be fatal to persons up to that time in health, and merely passing by a smallpox patient has been known to communicate that disease so virulently as to produce death. What, then, are likely to be the qualities of a warm bedroom where these poisons are kept pent up and in concentration for want of ventilation? It is indeed frightful to contemplate the evil results to the attendants and to the patients themselves shut up for hours together and sleeping in warm bedrooms the air of which is loaded with these poisons.

Now, bad as are the evil results of the want of ventilation in bedrooms in winter, they are infinitely worse in summer, when the temperature of the outside air is equal to that of the inside, and the whole air of the town is still, and there is not even the help of a fire to make a change of air in the room; for when the temperature is the same indoors and out and there is no wind, there is no spontaneous change even when the windows and doors are open; this is remedied in hot climates by the use of the punkah and other immense fans; but in this country all the change that can be obtained

is from a miserable little hand-fan that just vibrates the air in front of the face, but scarcely moves it away at all. Under these circumstances is it at all surprising that putrefaction and germination should go on at a rapid rate and produce fever, diarrhoea, cholera and gangrene, sometimes to a frightful extent? Truly there ought to be provided in every house a power of absolute *suction* of the vitiated air from every room, independent of the chimneys and windows, with provision for the inlet of fresh air, and this at an agreeable temperature.

Thus far my remarks have applied to the ventilation of rooms—to “single-room ventilation;” but rooms are not the only parts of a house that require ventilation. No plan of single-room ventilation can possibly supersede the necessity of a general plan for the whole house. The lobbies require special means of ventilation and warming quite as much as do the rooms; indeed the latter cannot possibly be obtained without the former. When referring to bedrooms of patients in winter with the fire drawing in 600 cubic feet of air each minute I laid stress on the fact of this air being cold; but coldness is perhaps the lesser of its two evil qualities; it is also *foul*, indeed perhaps loaded with dangerous effluvia. This latter is one of the evils that our improved workmanship and building have increased, if not absolutely provided for us. The watercloset opens into the lobby; the front door is made to fit as tightly as possible, to prevent cold draughts; and this prevents fresh air from coming in from the front; whilst with well-fitting intermediate doors to shut off kitchen smells, the admission of fresh air from the back of the house is prevented; these arrangements make the lobby into a chamber with the termination of the main drain opening into it through the watercloset. The rooms of the house—at least one or two living rooms and the patient’s bedroom—have fires in them, and these fires must and will have from 600 to 900 cubic feet of air per minute each, and this they obtain most easily from the lobbies, round the door when this is shut and through the doorway when it is open, which of necessity it frequently

is.* The supply of air for the rooms is thus obtained principally through the watercloset, especially if, as is usually the case, this is against an outer wall with a ventilating window through this wall, for the cold air then absolutely *blows* into the house through the watercloset window. The watercloset is placed against an outer wall and a window placed there under the mistaken notion the foul air will force its way out through it in spite of the force of the wind and in opposition to the power of gravitation and of that of fire suction ! It is, however, perhaps, worse if there is no watercloset window when all other inlet is shut off, for then the fires of the house will suck in air through the watercloset pan out of the drains, as they did in Londonborough Lodge during the stay of H.R.H. the Prince of Wales. So also will opening and shutting the watercloset and lobby doors. This may be demonstrated by the simple experiment of holding a lighted taper or a bit of smoking tape within the closet pan ; by this it will be seen that every time the doors are opened or shut air is drawn up through the water in the pan. We all are familiar with the circular stain made on the under surface of the lid by the foul gases. The foul air of the house drains and of the main drain of the street is then being continually drawn into the lobbies of the house ; so that the freshest air to be had in such houses is that loaded with watercloset effluvia ! One partial remedy for this state of matters is to keep the watercloset lid and door shut ; and another is to cut off the house drains from the main drains of the street by an open trap or grating just outside the house ; these are, however, only very partial and imperfect protection ; the only complete and effectual remedy is a direct opening from the outer air into the lobby, only protected by shutters to regulate the supply according to the requirements of the house and by hot-water pipes to regulate the temperature according to the season of the year ; and this should be sufficiently large to supply the whole house during its maximum of use, and so as to make it more easy for the

* Also directly from the drain when there is a fixed wash-basin communicating with the drain.

rooms to draw air through this opening than any other way; indeed, instead of the lobby drawing in air from the watercloset, the watercloset should draw air from the lobby; there should always be an inward current from the lobby to the watercloset produced by absolute suction through its ceiling, and this should be strong and continual. A window in the watercloset opening to the outer air is quite a mistake, as it is sure to drive the watercloset odours into the house; the watercloset window should be always shut.

From what I have advanced it will be rightly concluded that what I hold to be a prime and absolutely fundamental condition of a healthy and comfortable house is an ample supply of fresh and agreeably warm air in the lobbies, corridors, or other central spaces out of which the rooms of the house open or draw their supply. This is, in truth, absolutely necessary, and no house can be ventilated without it, no effectual removal of the vitiated air from the rooms or admission of fresh air into them can be accomplished without this; in fact, no house can be made healthy and comfortable without it. The supply of air must not only be ample for the maximum requirements of the whole house, but it must be fresh, that is, as fresh as can be procured, and if possible passed through canvas or other filter, and it must not only be ample and fresh, but it must also be warm; if it is to be admitted freely and copiously into sitting-rooms and bedrooms air must not be below 60° temperature; indeed it should be about 65°: without ventilation, that is, still air is comfortable at 60°; but air in motion, that is, when there is ventilation, is not comfortable to sit or remain still in lower than 65°. There must, therefore, be a coil of hot-water pipe at the entrance opening, or somewhere in the lobby. Even Mr. Rawlinson admits this, and provides it in his own house and recommends it for all other houses.

The next thing is the admission of this air into the rooms; of course some will gain admission when the doors are opened, and even round the doors when they are shut. But this is not enough, for when a room is fully occupied,

a quantity of fresh air equal to the cubic contents of the whole room should gain admission every twenty minutes, that is, three times an hour; special inlets must therefore be provided directly from the lobby into the room; and these should, if possible, be controllable by valves to accommodate the supply to one or two persons, that is, to a partial occupation of the room.

The next consideration is the abstraction of the vitiated air from the rooms. An opening or openings must be provided in or near the ceiling; to this must be adapted a pipe or flue, and this must run up an inner wall to the top of the house. Each room, each watercloset, and each gaselier of the house should have a separate flue; all these flues should terminate in one common chamber in the top of the house; this chamber should terminate in one common flue or shaft; and this should be kept permanently heated. It is absolutely necessary that this latter flue be kept permanently heated, for in no other way can a constant suction from the rooms, &c., of the house be procured and maintained, and in no other way can the rooms be emptied every twenty minutes, which they ought to be, and in no other way can back draught be prevented. This common abstraction flue may be kept permanently heated for a very little permanent cost by a jet of gas constantly burning in it, or by a few coils of the hot-water pipe; or for no permanent cost, by bringing it down to below the kitchen floor and then carrying it up behind the fire and round the smoke flue and terminating it outside near the top of the chimney; in this latter case the kitchen chimney smoke flue should be made of iron. This permanently heated abstraction flue being properly proportioned to the size of the house will empty the whole house three times every hour, and of course three times every hour will the whole house be replenished with fresh warm air. An intermediate drum or chamber into which all the flues of the house may terminate separately, and which is emptied by one common abstraction flue, is absolutely necessary, for in no other way can the suction act equally on every room.

The plan I have thus sketched meets, I think, all the

requirements of house ventilation with which I set out, namely, that it must be perfect and complete, must include the whole house, and be self-acting and uncostly. For the benefits of an efficient and complete system of ventilation and warming, I maintain that the outlay is very small indeed; the exact amount will depend on the size of the house. For the *ventilation* the *primary* cost is very little; of course the shutters of the primary inlet will cost something, so will the zinc tubes and the special kitchen chimney flue; the *permanent* cost is almost nothing: and for the *warming* the *primary* cost is only that of the apparatus itself, and the *permanent* cost only a few tons of coke per annum, so the plan is "inexpensive." It is also, as far as such an arrangement can be, self-acting, because the *ventilation* once set according to the number of occupants wants nothing more, and because it acts day and night and winter and summer alike, and the *warming* wants only the stove fire attending to night and morning, and perhaps once in the day. It "includes the whole house," because the abstraction flue sucks equally from every room, and the fresh warm air, entering at the basement, passes upwards through all the lobbies and rooms of the house in one continuous stream never to return.

To those who are familiar with the subject of house ventilation and warming such assertions as these may appear unwarrantable; but I make them advisedly and as confirmed by practical experience and scientific experiment. I have now lived four years and a half in a house provided with these arrangements, and have thereby satisfied myself and all my friends who have observed along with me that the system is complete and perfect, and answers every expectation originally formed. There are perfect ventilation and complete warmth throughout the house, so that persons may sit in any part of the room, and do not require to crouch over the fire; the odour of dinner is gone directly, and so is that of smoking in any room. The bedrooms in the morning do not smell like bedrooms; there is no offensive odour from the waterclosets; and both the ventilation and warmth are easily regulatable according to the requirements

of the occupants and the season of the year. Each room receives an ample supply of fresh air so distributed that there is no perceptible current, and which in summer is cooled from 5° to 10° ; and in winter is warmed from 10° to 30° ; so that all the year round the atmosphere of the whole house can be kept from varying more than 8° to 10° ; in the coldest winter it can be kept up to or above 65° and in the hottest summer it can be prevented from rising above 72° . Of the comfort and advantage of these conditions I have had practical experience, not only in health but also in disease. For some weeks in the winter of '69 and '70 I had staying with me a young lady in the early stage of consumption, and my wife was laid up with bronchitis; both patients felt the advantage of being able to range through the lobbies and the whole house at any time with a full supply of fresh air, and without the fear of the irritating effect of cold air. Also in the spring of 1871 I had two of my children down with putrid scarlet fever; and I then felt the immense advantage of plenty of fresh warmed air going from the lobbies into the bedroom and thence out of doors without returning into the lobbies, and with the ability to load the incoming air with disinfectants. By using disinfectants in the first floor lobby the air entering the house became impregnated, and then passing through the lobbies into the rooms to out of doors without returning into the house, left my professional part on the ground floor free from any risk of infection, much to my own and my patients' satisfaction. Such an arrangement you, as medical men, would be able to appreciate, not only in your own houses but in those of your patients. But this is not the only practical testimony; during the four years and a half thermometers placed in the different lobbies, rooms, and passages have recorded the temperatures throughout the house; and during 1871-2 very careful observations of the currents of the air through the house were made, with Casella's anemometers; one fixed in the primary inlet, one in the secondary inlet, in the outlets from the different rooms, in the downcast shaft, in the transverse, and in the upcast in two places; and readings were taken in the

morning before the fires were lighted or the sun had risen ; in the day at different times and under varying circumstances of the house, also in the night when all the fires had gone out ; with many persons in the house, and with few. A canvas filter has been stretched across the primary inlet, and readings taken with the canvas and without, and with the doors shut and with them open ; during strong wind and in calm weather. The results arrived at are :—that with a good kitchen fire burning and the water in the boiler boiling, we gain an average increase of temperature in the upcast shaft in winter of about 20° between the outside air and the air in the upcast, for the suction of the vitiated air out of the house ; and that this produces a velocity of about 220 feet per minute. The temperature of the smoke at the beginning of the kitchen smoke flue is about 230° , and of that escaping at the chimney top 195° . Even with earthenware smoke flue, open kitchen range, and wide chimney top, therefore, we utilise about 35° of the waste heat of the kitchen fire. With an iron smoke flue, close kitchen range, and contracted chimney top we would in all probability utilise from 50° to 70° , which would possibly increase the velocity to about 300 or 350 feet per minute. The area of the upcast is four square feet ; 880 cubic feet of air, therefore, passed through the house every minute, besides what went up the chimneys—enough to supply the standard quantity of fifteen cubic feet per minute to fifty-eight persons in the house at one time ; and supposing the ordinarily used fires to be lighted, about 4500 cubic feet of fresh air would pass through the house every minute, enough to supply 300 persons ; for of course the occupants would have the use of that which passed to the fires as well as that which passed to the ventilators. The quantity passing up the upcast is not diminished when the fires are burning.

Finally, gentlemen, I am sure that, with the exception of Dr. Drysdale's, it is the warmest house in winter, and the coolest in summer ; the most airy and fresh, and at the same time the house that is the freest from cold draughts in this country, if not in the world ; and from personal ex-

perience of the comfort and advantage of such a house I say to you, as medical men, in reference to our building our own houses—Go you and do likewise.

Discussion on Dr. John W. Hayward's paper.

A. R. PIRK, Esq., F.R.I.B.A., said, in offering a few remarks on the admirable paper presented, so full of practical suggestions for the improvement of our domiciles, the industry and perseverance of the author entitle him to our warmest commendation and hearty desire that successful application of his principle of ventilation may reward his labours in so unpopular but so useful a sphere. As an architect your visitor is put upon his defence for the sweeping terms in which the paper condemns the practice of building houses badly planned, the credit of which is given to a most innocent class; the truth being that ninety-nine houses out of a hundred are built and planned by builders and the exceptional number by architects, so that some qualification of the censure must be made in their favour. As a matter of fact, when an architect has done his best to plan a house on sound principles with every facility for successful heating and ventilation, hoping for an opportunity when a better class of structures may be acceptable to the public, all his intentions are frustrated by the utter indifference of his employers to the subject of ventilation, the results being that the arrangements proposed are struck out both from the plans and specifications. Now, who is to blame here? In the absence of any one else the architect is made the scapegoat, and, until the medical and architectural professions are allied together for the common weal of their clients and patients, first principles in sanitary matters will often be openly defied by those who are the first to suffer and complain. It is also to be remarked that in the medical profession the greatest liberty of action is conceded; the patient never interferes with or suggests the order of a prescription; but the obstinate manner in which an architect's wishes are opposed, who desires to make the interior comfort the first consideration, is so embarrassing to express or explain that we are bound to conclude that a certain amount of responsibility rests upon the medical profession to educate the public in matters so closely affecting their daily existence. The author came to a sound conclusion in the summary of all his recommendations when he stated "the public must pay;" and no doubt a false economy combined with great indifference has contributed to the present unsatisfactory state of things. A small fee to an experienced sanitary adviser and a comparative small outlay in arranging ventilating flues for inlets and outlets would insure an improved hygienic condition for our tenements, be they large or small; but for this the public

must pay. Referring to the general principle of plan laid down by Dr. Hayward and carried out successfully in his own house, it is to be feared that great difficulties must arise in carrying out the theory; for instance, in our London houses we may have three or four very large reception rooms on ground floor spread over an area of twelve to fifteen rooms in the basement and covered by a range of six or eight chambers on first floor, and possibly ten on second and third floors. Now, the houses being wedged up between party walls, how is it practicable to carry these ventilating flues and shafts from every room in the house to a chamber in the roof? In a regular form of house, where the rooms are compact and square and vertically arranged, the thing is easy enough, but in a straggling or zig-zag plan great difficulties must be overcome to attain success. It is also to be remembered that our old English gentlemen have a fixed belief in large open windows for the free currents of air to their bedrooms and sitting-rooms, and despise what they call a bit of a flue stuck into the outer or inner wall; but the mighty force of principles must be known and recognised before the desired improvements in house construction can be hoped for. As to the ventilation of waterclosets, to which Dr. Hayward has directed particular attention, it is somewhat startling to hear outside windows condemned as a means of ventilation, inasmuch as it would seem to be a part of our home construction from childhood always to have the watercloset window open by night, as well as by day, to ensure a pure atmosphere. All this is put on one side as worse than useless, being a hindrance instead of a help to hygienic development. A large field is, therefore, open for discussion on these important details, while, as a matter of fact, the arrangement we have pursued to provide always a ventilating tube from the watercloset trap and soil pipe direct to the apex of roof has always proved satisfactory, and, therefore, the outside window has been appreciated. The best form of closets to prevent back draughts from trap or drain is considered to be Underhay's patent apparatus. In concluding these fragmentary remarks suggested by the valuable paper now before the meeting for discussion, and which must be highly appreciated by all present, there is another alternative plan for dealing with the watercloset difficulty not referred to by the author, and that is the "Earth-Closet System," which in its science and application has proved a simple and complete success. When the elementary principles are more fully recognised and urged upon the public by medical men as a sound and economical course to pursue, then, and not till then, will the prejudices now existing against the system be overcome. Thanking them very much for the forbearance they had shown to an unscientific criticism by an architect in practice, who is anxious to obtain simple, definite, and practical ideas to work out and improve our dwellings, he

would second the advice of Dr. Hayward in perfecting the ventilation of his house and say with him go and do likewise.

Dr. WYLD begged to remind the Society that in 1831, in a building in Glasgow called the barracks, where 500 workmen resided, there occurred in November and December fifty cases of typhoid fever. Dr. Flemming ventilated this building by carrying a pipe from the ceiling of each room and converging these pipes into a main pipe, and be carried into the flue of a neighbouring factory. The result was that during the two following years only *eight* cases of typhus occurred in the building. In 1856 Dr. Wyld, adopting the above plan, suggested its application to ordinary dwellings, by carrying the terminal pipe into one ascending the kitchen chimney; this chimney being from its temperature a ventilating shaft day and night, summer and winter. Dr. Wyld's views are given in the first volume of the *Transactions of the Social Science Association*, 1857. They were submitted to the consideration of the building committee of this hospital, but were by that committee considered, owing to the complex structure of the hospital, impracticable. Dr. Hayward had triumphantly demonstrated the success of the plan in his own house, and thus disproved the universal truth of the proverb that "*fools* build houses and wise men live in them." With regard to hygiene generally, it seemed a disgrace that chairs of hygiene did not exist at all our schools of medicine. Were hygiene universally taught and applied one half of existing disease would at once disappear. The State insists that our alvine excrements shall be removed from our houses by the best constructed drains, and it seems only consistent that sufficient compulsion should, by the State, be put on builders so that by efficient ventilation the equally deleterious excrements proceeding from the lungs and skin should also be drained away.

Dr. GALLEY BLACKLEY, after thanking Dr. Hayward for his very interesting paper, said that, having had many opportunities of seeing Dr. Hayward's house, he could fully endorse all that the author had stated of it. He had been present on several occasions when the rooms were very crowded, but he had never felt the atmosphere in them to be the least close or uncomfortable. Dr. Blackley fully concurred in what Mr. Pite had said as to the advisability of placing closets on the outside of houses if possible. Dr. Blackley briefly described the plan adopted in a house recently built by his father. This was to have the closet placed on the outside, and to have between the house and the closet a clear space of two feet in width open at the sides so as to allow of a free circulation of air between the two. The plan had now been in operation between four and five years and answered perfectly.

Dr. DUDGEON said, that, judging from what had fallen from doctors and architects that night, the science of house building

was still in a very backward state. Why should the dwellers in towns in the matter of heat and air not adopt the principle that was illustrated by the gas and water supply? What a waste it was that each house should have to manufacture its own heat; and, indeed, it was worse than this, for every room manufactured its own heat at an enormous cost and infinite trouble. An American gentleman from Chicago had told him that in his house there was but one fire, in the kitchen; but that this fire by a proper arrangement of tubes heated the whole house even in the severest winter. In each room there were two taps, one for cold and the other for heat, and according as cold or heat was required in the room the one or the other tap was turned on. Why should not the same principle be carried out with respect to towns, or at least with respect to streets and squares? There might be a central furnace that generated the hot air which would be supplied to each house in a block or division of the town. He was sorry to notice that in Dr. Hayward's plan those wasteful abominations, open fireplaces, were retained. Surely a house could be better heated without than with open fireplaces, by which, as every one knew, you were roasted on one side and frozen on the other. If doctors were to be consulted in the construction of houses they would agree that it was fully as important that they should preserve the lives as the health of their actual or possible patients; indeed, many would say that it was much more important for them to keep their clients from being killed than to prevent them becoming ill. Houses as at present constructed, besides being, as Dr. Hayward had shown, favourable to the spread of disease, were real traps to prevent the dwellers in them escaping in the event of fire. The staircase was the only means of escape, and that was never made fire-proof. The first flight was usually stone, and the upper flights wood, narrowing as they ascended, so that the top flight was usually more like a ladder than steps. Now, stone chipped and broke to pieces when subjected to heat, and wood, they knew, was the most combustible thing that could be found, and yet to these two broken reeds the inhabitants of a house had to trust in the event of a fire. In his opinion every house should have a fine wide staircase from the bottom to the top, not constructed of either wood or stone, but of fire-clay. Again, he noticed in Dr. Hayward's plan that he still retained the barbarous sloping roof, which was the most unscientific part of the house. Its shape was such that it acted as a funnel to concentrate the heat of a fire at the top, and its slate covering was a constant vexation, letting in the wet whenever a fall of snow occurred, and so making it necessary to go to the expense of shovelling away the snow as soon as it fell. Now, space was the one thing wanting in a town, but here was a large space entirely left unutilised. The roof might be made flat and laid out as a flower garden, and in that state it would be the pleasantest part of the house in summer, and at all

times of easy access in case of fire. Houses as at present constructed and ventilated were scarcely an improvement on the primitive wigwams and huts of our remote ancestors.

Dr. DRURY was very glad that Dr. Hayward had been able to come to town to read his own paper; such a course required some little sacrifice, and our thanks were always due to those gentlemen who kindly did so. It had been his wish since he had the honour of filling the post of secretary to the society to get the provincial members to take an active part in the affairs of the society, and his efforts he trusted had not been unsuccessful; he hoped to get a good supply of papers from provincial members next session. Dr. Hayward's paper was one of far more general interest than that which it excited in our own body; and as he had practically tested the value of his mode of ventilation, he could speak with more real authority than he could were it otherwise. There was one objection that he (Dr. Drury) saw to the manner in which the supply of air was obtained. The air entered along the basement. This would be less pure than that obtained at a higher level, and was also liable to acquire greater impurities from earth evacuations on entering the house. Apart from this and the difficulty of application to existing houses, the plan seemed to be excellent, for not only was there a constant change of air going on, but the temperature was so regulated that the cold currents so damaging in certain complaints were guarded against. Of the danger from this source he was forcibly reminded by a case of bronchitis that he attended some time ago; the patient, an elderly lady, had a very severe attack of bronchitis, was in great jeopardy, but was improving. On making his visit one morning, when going up the staircase he experienced a cold blast from an open window facing the north, from which point the wind had begun to blow. A servant had unfortunately opened this window on a cold winter day; on reaching his patient's room the effect was at once apparent; she had relapsed, and all efforts failed to undo the evil that had been done. From his own observation he dreaded the north wind far more than east. The east wind made people uncomfortable and retarded recovery, and no doubt often caused a case to terminate fatally, but he believed that it was the cold north wind that so often turned the course of disease against the patient, and swelled our bills of mortality. In regard to watercloset ventilation, he thought that there should always be a pipe opening well up almost to the roof of the house, leading from the soil pipe; this prevented the rush of foul air that was apt to take place when the handle of the closet was raised, and was the best preventive of the foul air forcing its way into our cisterns. He had used Underhay's closets, and while he thought them good, could not give them all the praise that had been ascribed to them. He had endeavoured to make this arrangement in two closets in his own house, but the difficulty he had experienced

from plumbers and builders was astonishing. It was very difficult to make these people understand, and perhaps more difficult to make them carry out, anything in opposition to their notions. The flat roof proposed by Dr. Dudgeon would, he thought, have many advantages if properly constructed, but while workmen could pass from one roof to another to help themselves to lead, the temptation to them for this petty mode of pilfering would be feared to be too strong.

Mr. ENGALL said he regretted that he had not been present when the paper was read. Yet, as the subject embraced some general principles, upon these he should like to make a few remarks. Every medical man was not in the position of being the architect of his own house; for, being the architects of their own fortunes, most of them had not the wherewithal to do it, or possessing this wanted the necessary ability. As respected their patients they were not consulted as to the construction of houses, and it was generally only in cases of sickness that they were called upon to act; and the point which they then had to consider was how to render old houses healthy. One of the principles involved in accomplishing this end was that of dealing with the equilibrium of the air in such a way as to prevent draughts, and yet so as to neutralise or remove vitiated air as soon as it was engendered. The architect of a number of county courts ventilated them by a simple procedure. In one corner of the room he had an upright shaft, one end of it communicating with the room and the other end with the external air; in this shaft was placed a gas jet, the heat of which caused the air in it to ascend and this to be replaced by other air; no complaint was made of this plan not answering. In a house which was entirely closed at the back, and in which three closets were placed one above another, a similar plan was tried. A pipe communicating with the open air at the top of the house passed from each, and at that end opening into the closet a jet of gas was kept constantly lighted. This plan would answer so long as the air in the lower end of the pipe was relatively lighter than that in the upper, and if the force of the ascending column of air was sufficient to displace that above it; but if the air in the closet or in its neighbourhood, as from fires in the kitchen or other rooms, became hotter than the column above, then the action would be reversed and a current of air would come down the pipe instead of going up; thus the fætor would be spread over the house, which the sense of smell and the existence of a case of diphtheria in this house appeared to indicate here. The same takes place with some of Arnott's ventilators; even when placed in the chimney from the kitchen, the air in the room being hotter, smoke from the chimney passes into the room. The same thing took place when a friend of his tried the effect of a sun burner, the shaft from which went into the kitchen chimney; the heat (from the number of jets) being greater than that in the kitchen

chimney brought a cloud of smoke into the parlour, and this mode of lighting had to be abandoned. He thought that when any air shaft had to be used the jet of gas should be placed near the outlet so as to secure the rarefaction of the upper strata of air. There were besides some simple modes of ventilating which might be made available. Such was that of not quite closing the sash; a nail driven into the top bar of the upper sash and projecting about half an inch or less would leave a gap between the upper and lower sash sufficient to ventilate the room. Another plan was to cut the edge of the upper rail of the outer surface of the door at an angle of 45° ; this angle not only allows the air to enter but directs it to the ceiling of the room, and thus avoids draughts. There are other sources of disease upon which it is necessary to keep a watchful eye besides ventilation and smells. The Rev. J. B. Owen, in his *Old Friends and what became of them*, relates the case of the daughter of his schoolmaster who became gradually paralysed. The skill of the most eminent of the country faculty was unable to divine the cause, and in a state of extreme prostration she was brought to London. A physician of eminence entered minutely into her case, asked her especially as to the state of the drainage and the water of her home, and found himself completely baffled. The young lady was carried from his consulting room, and placed in her carriage, which had not left the street when the doctor's footman ran after them, desiring them to come back; they found the doctor at the door awaiting their arrival; approaching, he said, "I forgot to ask how is your room papered?" "Not at all," was the reply, "it is painted." "When was it painted last?" "Twenty years ago." The doctor looked disappointed, but mentioned that if there had been green paper in it the arsenic might have affected her. The patient exclaimed, "they stuff birds with arsenic in India," and added that she had in her room about 500 birds from that country which her brother had sent her; "these," said the doctor, "are the assassins;" he sent her to Bath, where under medical supervision she entirely recovered. A patient of his own (said Mr. E.) had within a short interval two attacks of gastric fever; in the first attack she was for sanitary reasons removed to another bedroom; she recovered, and then resumed her former bedroom; here she was when he visited her for the second attack. Looking around for some cause he observed a case of stuffed birds, the glass front of which was broken; he ordered the case to be removed; the patient also was removed to the former room, got well, and has again returned to the room which the birds and she conjointly formerly occupied; but no case of illness has occurred there. Not only is arsenic employed in the curing of the skins of stuffed animals, but corrosive sublimate also. As regarded the effluvia from waterclosets, he thought it was the wisest plan to disinfect the fæces before passing them. (Dr. Wyld, "By charcoal?") No, by oatmeal, the silica of which

would be found, as it was in the ox and horse which never had typhoid fever, a highly effective disinfectant.

Dr. YELDHAM said the subject before them had been so thoroughly "ventilated" by previous speakers, that he would not enter into the architectural aspect of the question, but merely offer a few remarks on its general bearing. It was notorious that reformers were apt to be ungrateful to the past, and forgetful of the present, in their ardour for the future. The paper was, he thought, to some extent, an instance of this kind. The author, it appeared to him, was too hard upon his medical brethren; and the accomplished architect who had so ably addressed them very naturally echoed those sentiments, in his anxiety to shift the blame from the shoulders of his own profession. He (Dr. Yeldham) could not subscribe to this. He thought the question was altogether an architectural one. The architect was the person who had to draw plans, to devise improvements, and to advise as to the structure of a house, whereas the medical man had no voice whatever in the matter. Ninety-nine times in a hundred he never saw the inside of a house until sickness called him there. It was then clearly his duty to make all proper arrangements for the comfort and advantage of his patient, and there he considered his duty ceased. And further, even if he had opportunities of advising on the sanitary condition of his patients' houses, such advice would be pretty sure to be ungraciously received. People were generally proud of and satisfied with their homes, and were naturally very sensitive to any unsolicited adverse criticism on that point. Then, again, he thought the author had rather over-coloured the evils and horrors of houses, as at present constructed. His picture reminded him of the effect produced on the mind of a lady whom he accompanied many years ago to an exhibition of the oxy-hydrogen microscope. She declared that the fearful life in a drop of water there displayed would deter her from ever again indulging in a drink of that liquid; similarly, if they did not make large deductions from the author's picture of the dangers of ordinary habitations, they would all be afraid to return to their homes! He thought that most modern houses were, on the whole, light, airy, and wholesome, and that with doors, windows, fireplaces, and some simple and inexpensive ventilator, they might be ventilated sufficiently for all ordinary purposes. The great source of danger and disease he thought was below and not above ground,—in the drainage and not in the ventilation. With these reservations he most heartily joined in thanking the author for his very interesting and instructive paper, and should he ever be led into building a house he would certainly bear Dr. Hayward's plan in mind.

Dr. HAYWARD, in reply, thanked the members for the indulgent manner in which they had dealt with his paper, and was pleased with the interest manifested in the subject. He must first dispose of any idea of claiming originality: what was original

was due to Dr. Drysdale, with whom he had talked the matter over for several years before the erection of Dr. Drysdale's house in 1861; and the reason for his asserting his own house was the best was that, having followed Dr. Drysdale, some improvements in detail have been introduced. A similar plan was in operation in the House of Commons, but there the abstracting power was an extra and special expense, and required special attendance; and a similar plan was, as Dr. Wyld said, proposed and carried out by Dr. Flemming and himself in 1857; but in their case, besides the abstraction flue being a constant extra cost and attention, the exit flues enter the common flue on different levels, and therefore the suction cannot act equally on all the flues; but in the scheme here advocated the abstracting power costs nothing and does not require special attendance, and the suction acts equally on every flue. There would not be any difficulty in carrying the exit flues to a common drum (as suggested by Mr. Pite, architect) in the case of straggling houses, because the flues could be carried anywhere, as shown in Dr. Drysdale's house. The difficulty with several waterclosets one above another, as referred to by Mr. Eugall, is easily remedied by continuing the soil pipe straight up to the roof, or having a pipe run up from every bend; this would do away with any upward pressure of the gas from the drains and for the necessity of tightly fitting lids. As to the poor always shutting up ventilators, it is only because they let in *cold* air. He quite agreed with Dr. Wyld that government should interfere as well in the case of neglected ventilation as in neglected drainage; and with Dr. Dudgeon, that warming and ventilation should be applied to the houses of the poor by having them built in blocks with a warming and ventilation common to the block: but he disagreed with the idea of warming houses entirely with heated air, which, for this purpose, would have to be heated to a disagreeable temperature, because of the loss in rooms by radiation by the windows and external walls. He highly approved of the plan adopted by Mr. Blackley, of Manchester, of having a small open space between the water-closet and the house, as protection from the water-closet effluvia. In reply to Dr. Drury, he said the air entering the house through the basement would be effectually prevented from becoming damp or earthy by having asphalted or cemented passages; and in reply to Drs. Yeldham and Hughes he said that the plan could be easily and very inexpensively adapted to existing houses by having an opening *into* the staircase and *out* of it into the rooms, with an opening in the ceiling and a zinc tube running up against the wall of the lobby or room above; and in reply to Mr. Engall, he remarked that it is impossible to make any form of inlet that will cause the inlet *cold* air to rush up to the ceiling and float across the room on the top of the *hot* air, and thus become warmed by the heat of the room, because cold air is specially heavier than hot air and will fall down immediately on entering

a warm room, whatever the form of the inlet. In reply to Dr. Yeldham, he said that medical men could not confine their recommendation of ventilation to bedrooms only, because bedrooms could not be successfully ventilated without ventilating the whole house.

CASES ILLUSTRATING THE ACTION OF *BARYTA CARBONICA* IN TONSILLITIS.

By Dr. RANSFORD.

(Read before the British Homœopathic Society.)

So long ago as 1851, when I was secretly testing remedies according to the law of similars, I was disappointed at the results obtained from treating cases of acute cynanche tonsillaris with *Belladonna* and *Mercurius solubilis*, the recorded pathogeneses of which drugs led me to expect a more speedy cure. Meeting with the second volume of the *North American Journal*, I found at page 487 an abstract of a report of the proceedings of the Homœopathic Association of Western Germany, which met at Dortmund on the 29th of July, 1852, under the presidency of Dr. von Bönninghausen. The only part of this report to which I intend to refer is that relating to the treatment of angina tonsillaris. Dr. Hendrich spoke of cases of angina tonsillaris in which the cure had been very slow under the use of *Belladonna* and *Mercurius solubilis*. He now had better results from *Mercurius dulcis* 2, of which he administered a grain every two hours.

Dr. Stens thought *Baryta* an excellent remedy. My purpose on the present occasion is not to allude to the chronic disease, hypertrophy of the tonsils, nor to any affection of the throat of a syphilitic kind; but to the disorder popularly called quinsy, which, although not usually fatal, is attended with great suffering, and under

the ordinary allopathic treatment as recommended by the most eminent of that school is tedious and unsatisfactory. Many years after I had discontinued the use of leeches I had better results from the application of solid *Nitrate of Silver*. Every one knows that this is a painful, disagreeable, and in many cases a very difficult operation, and is generally associated with a few delicacies in the shape of diaphoretics and aperients of various kinds. At this time I was not a homœopathist. There is no medicine which in this malady has yielded me such satisfactory results as *Baryta carbonica*. It is because of its being mentioned in so brief and cursory a manner in the afore-mentioned report, and also because it has been rarely used by homœopathic practitioners nor very pointedly alluded to in the repertories most in repute that I am induced to lay before you the following cases. They scarcely differ from one another; but a remedy is more to be depended upon when the results are uniform under like conditions. The first time I administered *Baryta* was in January, 1852, to a servant of my own, æt. 20, of a strumous constitution. She was subject to quinsy, and its duration was usually a week at least. The symptoms were well marked: inflammation of the cellular membrane of the fauces and tonsils, accompanied by fever, difficulty of swallowing and speaking. A few doses of *Baryta carb.* 12 in globules relieved her in twelve hours. Suppuration did not take place. This young woman stated that she had been similarly affected some years before, was, after being leeches, poulticed, and blistered, rescued from impending suffocation by the puncture of the swellings and evacuation of purulent matter. On one or two subsequent occasions a threatening of the same disease was averted by the timely administration of *Baryta*.

In August of the same year I was called to a young lady at a boarding school near York (where I then practised). She was suffering in the ordinary way. On account of the profuse secretion of saliva and the lining membrane of the throat and mouth being more extensively affected, I tried *Belladonna* and *Mercurius solubilis* 6 every hour alternately.

The following morning a messenger came early for me, requesting my immediate attendance, as her friends feared suffocation. I found her unable to swallow. Liquids taken into the mouth were ejected through the nostrils. I could not depress the jaw sufficiently to examine the throat. There was full accelerated pulse, heat of skin, pain in the head, redness of the face, and urgent thirst. I gave *Baryta carb.* 12 alone; relief was afforded within eighteen hours without suppuration. Had not the patient suffered from constipation, she would scarcely have required more than one or two additional visits. Her medical attendants had been allopaths until on this occasion. The constipation yielded to *Nux vomica* 3 and *Opium* 3.

In January, 1853, a young female servant in a family who were my patients complained of sore throat and fever, at the same time comforting her mistress with the information that she was subject to this kind of sore throat, and that once she was ill for six weeks. I was asked to prescribe for her, and gave three globules of *Baryta carb.* 12 every four hours. She was at her work the next day.

I could relate additional cases, but it would be mere repetition; I should weary you, the cases being similar, and the results equally satisfactory. I shall, therefore, trouble you with but one more case, strikingly confirmatory of the efficacy of *Baryta*; but the more impressive upon the patient and his friends, because he was under the care of an experienced allopath when I was summoned to his bedside. This allopath was in extensive practice in York, bitterly opposed to homœopathy, who never lost an opportunity of speaking against it and its practitioners; but the father of my patient, living at a distance, was an earnest intelligent homœopathist, who insisted upon my being sent for without delay so soon as he was informed of his son's illness. The patient's case was a severe one; his age was twenty: his distress was great, being unable to swallow even liquids without difficulty. He had supped upon *Hydrargyrum c. Cretâ*, and would have breakfasted upon senna tea had I not been called early to see him. Circumstances led me to give his guardian a playful exhibition of the tube

of globules, from the administration of which I was bold enough to predict a speedy favorable result. The next day my patient, who was not a believer in our system, thanked me warmly for the change in his condition, expressing his astonishment at the relief afforded by means apparently so insignificant; I requested him to give the name of the medicine to the surgeon. This I afterwards learned had been given, but the only response was "that they had medicines enough already, and did not want any new ones." To this sapient observation I rejoined, "that the worthy Æsculapian ought henceforth to travel by the old-fashioned carrier's cart and not by rail." The successful result of this case, together with the young man's recovery afterwards under homœopathic treatment from double pneumonia, made my patient an enthusiastic missionary in our cause; and when some years afterwards he was appointed head master of his school he insisted that every pupil whose friends wished for it should have homœopathic treatment. He made this one of the conditions of accepting the post, for which he was more than usually well qualified.

Previously no one but the before-mentioned allopathic surgeon was allowed to cross the sacred threshold; it was a strict preserve. The worthy surgeon had more than once threatened to resign his post of medical attendant to the school were homœopathy allowed within its walls. *Baryta carbonica* was the principal cause of breaking down the barrier of perhaps the most exclusive educational establishment (so far as the admission of any but their own sectarian doctors were concerned) in the north of England. The barriers have not been replaced.

Such cases as these, being visible to all observers, make a powerful impression on the patients and bystanders who sometimes do not care to repress their indignation when they contrast the two systems. Why I administered *Baryta carbonica* in globules, and these of the 12th dilution, was simply the result of accident. In a case of globules supplied to me by the late Henry Turner, of Manchester, I found them, and not having at that time access either to tincture or

trituration, nor to a choice of dilutions, I administered the globules, not without distrust of their efficacy. Afterwards Turner sent me a supply of the third trituration of *Baryta*, which I gave under similar circumstances, but without any good results. Upon returning to the 12th dilution the same favourable consequences ensued.

I submitted my experience of this drug to my *confrères*—their testimony in many instances is similar to mine.

Dr. James Gibbs Blake, Birmingham, wrote to me as follows, under date May 18th, 1873 :

“In early stages of tonsillitis I have found *Baryta carb.* 5^x of great service, and I believe that it has the power of arresting the inflammation and preventing suppuration.” Dr. Harvey, of Southport, writes to me, June 13th, 1873 : “I have seen *Baryta carbonica* of great use in chronic glandular swelling, and also in acute tonsillitis of the left side, using always the 6th dilution.”

My conviction upon the subject is so strong, and this conviction is based upon an experience ranging over a period of upwards of twenty years, that I shall never prescribe *Baryta* in lower dilutions than the 5th or 6th, and if procurable shall prefer the 12th, to which I now adhere.

We have had frequent discussions upon dose and dilution. In my humble opinion these questions can best be settled by clinical reports, in which the dose and dilutions of the remedies employed are mentioned together with the temperament, disorders, and other circumstances affecting the question.

Another reason why I have brought these cases before the Society this evening was because of the remarks made by former speakers in the discussion which followed Dr. Black's able paper, my reply to which remarks I thought better to postpone, not being able to remain till the end.

Dr. Bayes so well expressed my own sentiments upon the subject that I shall quote his own words. He (Dr. Bayes) says, “Excepting up to a certain point with insoluble substances, he does not believe in dynamisation ; the more soluble a substance becomes the greater its physiological

power. It is from its greater solubility that *Mercurius corrosivus* is in the lower dilutions more potent than the same dilution of *Mercurius vivus*; but though trituration and dilution do not *increase* the physiological power of medicines, he was not prepared to say that the *curative* power did not become greater by dilution." Dr. Yeldham on a subsequent evening, when remarking upon *Baryta carbonica*, "could not say that in his experience he had realised the superior virtues attributed to the 12th dilution over other medicines. In treating cynanche tonsillaris he had heard no valid reason why it should be preferred to the 11th or 13th dilution; these assertions of the superiority of one particular dilution over all others in *every* case for a particular disease were, he said, mere assertions unsupported by any careful comparison with the effects of other dilutions."

I have already mentioned how it came to pass that I used the 12th dilution. I have likewise stated that *I had* employed other dilutions and other medicines in the treatment of cynanche tonsillaris, but that I had not met with such favorable results from the other medicines nor from *Baryta* in dilutions lower than 6th, having totally failed with the 3rd. Besides, who would raise such an objection to the use of the 30th dilution that perhaps the 29th or 31st would be of equal, if not of greater efficacy. There are a certain number of dilutions with defined numbers familiar to us, but we are not accustomed to talk of 11th, 13th, 29th, or 31st dilutions. Under these circumstances I do not think that Dr. Yeldham was justified in saying "these assertions of the superiority of some particular dilutions of a medicine over all others in every case for a particular disease were ~~MERE~~ assertion *unsupported* by any careful comparison with the effects of other dilutions."

Dr. Dudgeon remarked that diseases such as tonsillitis, which naturally tended to quick recovery, would throw no light upon the subject. I differ from my friend Dr. Dudgeon; my second case was treated with two medicines without perceptible benefit. *Baryta carb.* was substituted and the superior effect was immediately evident. Many able acca-

rate observers maintain that the tendency of all disease is towards recovery and not to death. This is an interesting subject for inquiry, but I refrain from entering into it to-night.

Dr. Black stated in the discussion following his second paper on the dose (*British Journal of Homœopathy*, No. cxviii, p. 792), "I shall afterwards allude to the alleged insufficiency of *Baryta* lower than the 6th." He did not allude to it, however, merely observing that it is not a remedy which he employed in acute tonsillitis. Experience alone must be the test for this as well as for all other remedies.

In one other disease I found *Baryta* very useful. In 1868 I was consulted by a widow lady æt. 73. She was of a slightly strumous habit and suffered from irritation of the bladder, which was greatest at night when in bed. After prescribing *Cantharis* 3, and afterwards *Petroselinum* 1 with little satisfaction, I tried *Baryta carbonica* 12, one drop three times daily. Within fourteen days the annoying symptoms ceased; a reference to the recorded pathogenesis of this preparation will show the reason why.

Although it is not my intention to-night to discuss the question of dynamisation, still less is it my wish to ignore certain mysteries the explanation of which it is difficult to give. We all know the beneficial action of *Natrum muriaticum* in appropriate cases, yet patients who have been accustomed to take salt with their food have not derived the benefit from that salt, although in fit cases they have been perceptibly benefited by the administration of a few drops of *Natrum muriaticum* 6. *Natrum carbonicum* is a medicine which some of my patients use with advantage. One lady for whom it was prescribed by a homœopathic physician in Switzerland is never without it in her case. How is it, then, that it should be of such benefit to her (she is not a fanciful, nor a whimsical person) when she is in the daily habit of inhaling and breathing the *Sodium* with which the atmosphere is charged? Few will dispute that these substances must exist in the atmosphere in a sufficiently diluted condition.

I present the Society with this trifling contribution to

therapeutics, asking you to forgive its faults and deficiencies and begging for your unreserved opinions.

Discussion on Dr. Ransford's paper.

Dr. CHEPMELL elicited from Dr. Ransford that the *Baryta carbonica* was administered at intervals varying from one to several hours, according to the urgency of the case, in doses of 3 globules to a dessert-spoonful of cold water. Dr. Chepmell had some favorable experiences of this remedy in the treatment of lingering sore throat after scarlatina, but had not used it in the ordinary treatment of angina tonsillaris.

Dr. YELDHAM thanked the author for his nice practical paper, but, in spite of the evidence and arguments therein contained, he must still adhere to his opinions. The dose question was too wide a one to be entered upon at that late hour, otherwise he would be happy to re-enforce the grounds of his dissent from the author's views.

Dr. R. HUGHES said that it was to Dr. Ransford he was first indebted, now eleven years ago, for the suggestion of *Baryta carbonica* in quinsy. He had always used it since, and with the utmost satisfaction, as also had Dr. Madden, to his certain knowledge. He (Dr. Hughes) had spoken emphatically of the value of the remedy in his Manuals of Pharmacodynamics and Therapeutics. It was important to distinguish the precise form of angina which called for *Baryta*. It was not the inflammation of the mucous membrane, where *Belladonna* was so potent, or *Apis* when there was much œdema. But it was when the parenchyma of the tonsils was the seat of the mischief that he had found these far exceeded by *Baryta*. The tonsils were *glands*; and neither *Belladonna* nor *Apis* had much influence over glandular structure, while *Baryta* was already of much repute in chronic engorgements of these organs. Occasionally—say once in ten times—he had found *Baryta* fail in checking the progress of quinsy; but he could not define the class of cases in which this occurred. He had always used the 6th centesimal dilution.

Dr. HALE considered the indications for the administration of *Baryta c.* based on the pathological conditions of the tonsils, one of the most valuable contributions to the practice of homœopathy. Dr. Hale had not been led to prescribe *Baryta carb.* for tonsillitis, having found *Belladonna*, *Mercurius*, *Hepar s.* generally succeed in the cases he has met with; but from the convincing proofs of the efficacy of *Bar. carb.* when the substance of the tonsil is involved in the inflammation, he should certainly be induced to employ that medicine the next case that occurred in his practice.

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In cases of *chronic* enlargement of the tonsils he had found *Baryta c.* of the greatest value.

Mr. A. C. CLIFTON, of Northampton, said his experience with *Baryta carbonica* up to two years ago had been contrary to that of Dr. Hughes in the results obtained by its use in acute tonsillitis, but since that time he has been using *Baryta* supplied to him by the chemist who supplied Dr. Hughes, and he had seen very good results from that; he has also had some from H. Turner and Co., which had been as efficacious; the dilution he had used had been the 6th centesimal. Mr. Clifton made these remarks respecting the source from which he obtained the medicine, because he had noticed before that *Natrum muriaticum* and *Causticum*, as well as other medicines obtained from one source, had failed to satisfy him, whilst when obtained from other sources they had subsequently answered, and that perhaps from no fault of the chemist, who in the preparation of the medicine might have been as careful as the other one; and therefore he advised the members occasionally to try medicines from different sources where they failed to get the results they anticipated from a medicine.

CASES TREATED AT THE LONDON HOMŒO-
PATHIC HOSPITAL.

By R. D. HALL, M.D.

Acute Pleurisy.—Ellen P—, has been subject to a winter cough for some years, but enjoyed very good health until three weeks before Christmas. She then had to sit up occasionally at night to nurse a child that was ill, and thinks she got cold.

The attack came on with rigors, after which patient does not know what occurred; has been told that she wandered a good deal. There was no pain. Patient can give no further account of her illness until admission.

On admission patient was very weak and exhausted, intensely pallid and anæmic; had a cough with no expectoration. Complained of nothing.

Jan. 6th.—Patient has remained in a very weak state. There was a slight amount of sibilant and moist râles, but

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otherwise chest seemed healthy ; no diarrhœa ; patient continually moaning in her sleep.

This morning complains of intense shooting pain over hepatic region ; worse on coughing and taking a deep breath. Temp. 101·6 ; dulness at base of right lung.

7th.—Much better.

9th.—Pulse 112 ; Temp. 101·2°. Pain worse to-day.

13th.—Dulness disappeared ; all pain gone ; cough still troublesome.

23rd.—Very much better ; patient has been able to get up of an evening ; cough still continues with some expectoration.

27th.—Yesterday had a severe paroxysm which was accompanied by profuse purulent expectoration. Is much better this morning, the expectoration having resumed its previous character.

Feb. 3rd.—Much better in every way ; cough still troublesome.

13th.—Still improving ; no pain in chest, cough not much better. Expectoration still continues ; appetite good ; is gaining strength.

Remarks.—On the morning of Jan. 6th, three days after admission, during which time there was no complaint of pain anywhere, acute pain is felt, and in addition to the physical signs just mentioned, there were well-marked friction sounds over the seat of the pain. Upon the administration of *Aconite* 3^x, every two hours until the afternoon of Jan. 7th, the pain ceasing even on deep inspiration, and taking into consideration the weak and anæmic condition of the girl, I thought it advisable not to push the *Aconite* further, but to give *Bryonia* 3^x, which seemed to be indicated by the evidence of pleuritic effusion to a considerable extent into the right pleural sac.

I think now, upon a review of the case, that better practice would have been to have allowed the *Aconite* to exhaust its action before giving *Bryonia* ; and I would here remark that I think we are, as a rule, too fond of giving one medicine too quickly after another, without giving the previous medicine time to exhaust its action undisturbed by its

successor. I am sure now I made this mistake in the present instance, and what was the result? This,—the stitching pain returned on the 9th of January, the temp. being 101·2, and the pulse 112. I was, therefore, obliged to fall back upon *Aconite* 3^r, given every four hours for sixteen hours; and taking into consideration the pleuritic effusion I prescribed *Sulphur* 5 every four hours for the sixteen hours following the last dose of *Aconite*. This is the plan my experience has led me to follow instead of alternating medicines in the usual way, and I can confidently affirm with the best possible result. I have for some time ceased to give medicines in alternation, dose after dose, because such a plan not only vitiates results, but is in fact a kind of poly-pharmacy, and does not give either of the attenuated medicines time to produce their curative effect. I know that on this point many excellent and successful practitioners differ from me, and I merely wish to state my own individual opinion without presuming to dogmatise upon this point, or to censure the practice of those who do alternate medicine in this way, which whether rightly or wrongly I consider objectionable.

To return after this digression to the case before us. From the 9th to the 13th January there was progressive improvement, all pain had ceased and dulness had disappeared over the base of the right lung; there remained a troublesome cough, and as there was a suspicion of a slight amount of inflammation of the substance of the lung, I prescribed *Phosph.* 3 every four hours, and for the cough which was troublesome at night *Hyoscyamus* 1 was given through the night.

Jan. 27th.—I cannot account for the occurrence of this purulent expectoration; there were no signs of a cavity detected, nor anything leading one to suspect the presence of a collection of pus anywhere, yet such there must have been, and the only conjecture I can hazard is, that there was an undiscovered pneumonic abscess which suddenly opened into the bronchial tubes, the purulent sputa as suddenly ceasing, and nothing but simply mucous expectoration taking its place. Another supposition is that a pneu-

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monic abscess which had existed for some time deep in the parenchyma of the lung had opened into the pleura, and produced the acute shooting pain in the membrane covering the diaphragm immediately over the liver. I think this latter was the more probable.

It only remains now to say that under *Bryonia* 3, three times a day, from the 30th of January to the 6th of February, when a placebo was given for four days, she was discharged cured on the 21st of February, taking *Ferrum aceticum* of the 3rd trit. in grain doses given somewhat empirically in the hope of lessening the anæmia.

Chorea.—Elizabeth E—, æt. 11, admitted August 7th, 1873.

No history can be made out as to the origin of the complaint, but it had existed several years. Parents are both given to drink and there has probably been ill-usage.

On admission Aug. 7th, suffering from constant jerking of the limbs, more especially the arms. The face and mouth are painfully contorted, especially when she is looked at or spoken to. Is quite unable to speak, having no control over the movements of mouth and tongue. Movements of arms are so violent that she is unable to feed herself; systolic apex bruit at times. Ordered *Causticum* 6 gtt. j t. d. s.

Aug. 10th.—Continues much the same. Was seen by Dr. Hale, who ordered *Stram.* 1, gtt. j 4. h.

Aug. 18th.—Has continued in much the same state. After a great effort can sometimes say "Yes" or "No."

During the next few days from some unknown cause became much worse; the jerking movements of the whole body grew so very violent that the patient had to be tied down in bed with sheets. There was great difficulty in swallowing, and total inability to sit at stool. Legs and arms became covered with bruises.

Was seen on the 24th by Dr. Mackechnie, who prescribed *Cicuta* 1c., gtt. j 4. h.

On the 26th continued in the same condition; if anything,

slightly worse. Bowels constipated. *Cicuta* continued. Rapid improvement now set in, so that by the 1st of September she could swallow her food and sit up in bed.

Was seen on September 2nd by Dr. Hale, who ordered *Cuprum* 5 gtt. j 4. h.

Sept. 4th.—Improvement continues. Patient is now able to get up and take her food herself. Can speak a little at times.

Sept. 9th.—Very much better. Can speak quite plainly and answer any question easily. Takes her food well. Jerking of limbs continues. *Cuprum* continued.

From this time she steadily improved, and was discharged on Oct. 10th, cured.

REVIEWS.

Complete Repertory to the Homœopathic Materia Medica. Diseases of the Eyes. By E. W. BERRIDGE, M.D.
Pp. 321.

THIS work originally appeared in parts, as a supplement to the American journal known as the *Hahnemannian Monthly*. It elicited, at that time, an unfavourable notice from Dr. H. Nankivell in the *Monthly Homœopathic Review* (January 1st, 1870), to which Dr. Berridge replied in the next number, and was replied to in the following one by Dr. Nankivell and Dr. Dudgeon. As the present volume is "revised, rearranged, and very much enlarged," we need not go back upon this controversy. Dr. Berridge has evidently profited by the criticisms then passed upon him; and we propose to consider the present handsome volume as a substantial work.

Our first question must be—On what grounds does Dr. Berridge think it necessary to furnish us with a new Repertory to the Eye symptoms of the *Materia Medica*? We already have, in the "Cypher Repertory" of the Hahnemann Publishing Society, a section on the eyes. Is this so faulty or imperfect as to need superseding? We look in vain in Dr. Berridge's preface for any reference to his predecessor's labours, or any reason why they should not suffice for all our purposes. We can only refer to his work itself to see what are its distinctive characters and merits, and whether they warrant the rivalry implied in its publication.

The first point we note is that Dr. Berridge gives us a list of 1171 medicines as constituting the *Materia Medica* which he indexes, while the *Cypher Repertory* has only 303. The difference is of course partly due to the later date of the former work (1873 as compared with 1859),—many new medicines, especially indigenous American plants, having been proved in the interval. So far, Dr. Berridge

must be thanked for giving us a useful supplement to what was already in our hands. But this might simply have appeared as a supplement ; and, moreover, it only accounts for some hundred additional medicines at most. Whence the remaining 700 and more? Dr. Berridge does not give us (as the Cypher Repertory does) a reference to the provings of each. Many, nay, most of them are entirely unknown as proved medicines to the present writer, who is not neglectful of homœopathic literature. We are compelled to pronounce them, until further substantiated, untrustworthy ; and to consider their presence in this Repertory by no means a point in its favour.

Next, we have the arrangement of the symptoms. In the Cypher Repertory these stand in six sections. The first contains the symptoms themselves, with their conditions and concomitants. The second and third are devoted to the conditions and concomitants of the pains. The fourth treats of the "course and progress of symptoms;" the fifth has "peculiar symptoms;" and in the sixth the various symptoms are arranged according to the "anatomical regions" in which they appear. The great feature of the Repertory is that wherever any symptom occurs it shall appear *as a whole*. That too much space shall not be taken up hereby, all that does not belong to the section in which for the time it is classed is expressed in cypher.

Has Dr. Berridge improved upon this arrangement? He has "divided each chapter into two sections :—I. The *Symptoms* themselves ; and II. Their *Conditions* (including *Concomitants*). Section I is further subdivided into five subsections :—A. Functional Symptoms ; B. Anatomical Regions ; C. General Character, Sequence, and Direction ; D. Right Side ; and E. Left side : and Section II into two subsections :—A. Aggravations ; and B. Ameliorations." There is nothing that we know of to which exception can be taken in this arrangement ; but on the other hand it presents no feature which evidences its superiority to what we already have. Dr. Berridge's work has, indeed, what would seem to many an advantage ; it uses no Cypher. But against this must be set the fact that he requires 321

pages to accomplish what the Cypher Repertory has done in 40. The former may be more "luxurious" to read; but when it comes to purchasing some twenty or more volumes of Repertory at half a guinea each, the luxury is greater than most of us can afford.

Dr. Berridge agrees that "a perfect Repertory should contain a reference to *every* symptom of the *Materia Medica* under *every* rubric where it can possibly be looked for." But this is not the same thing as "giving every symptom entire under every aspect in which it could possibly present itself," which is the rule of the Cypher Repertory. *E.g.* Hahnemann's 227th symptom of *Belladonna* is, "burning of the eyes, accompanied by an intensely painful itching; both symptoms disappeared upon the eyes being pressed upwards." Now, to find this in Dr. Berridge's Repertory we must first look under Section I β for "Heat" and "Itching," and then under Section II β for "Amelioration by Pressure." Whereas, in the Cypher Repertory, the whole symptom in cypher will be met with in the conditions of "itching" and of pains ("burning" and "itching" being symptoms common to so many medicines are not given at length on account of the confusion their number would create).

Again, it has been objected that, under "concomitants," Dr. Berridge gives "with Head symptoms," "with Face symptoms," &c., without specifying what these are. He may reply that they will be found among the concomitants in the Head and Face chapters, under the rubric "with Eye symptoms." But it may fairly be answered that this after all only tells us what medicines affect both parts simultaneously, but not in what manner they do so. And even barring this objection, it is much economy of time to give the whole symptoms at once, while waste of space is obviated by the cypher.

We cannot, therefore, think that Dr. Berridge's work is superior in character to that of the Hahnemann Publishing Society so that it should supersede it. But it will not be without use as a supplement thereto, from its containing later-proved medicines; and to many it may prove a wel-

Diseases of Women and Children, by E. H. Ruddock. 753

come alternative through its dispensing with the cypher. Speaking of it positively, and not comparatively, we have nothing but praise to award it. It is the fruit of great industry and much thought. Its revised nomenclature of our mineral medicines is a valuable contribution towards this task, which one day is inevitable; and its Table of Synonyms for varieties of sensation is very instructive. The type, paper, and binding of the volume are remarkably good; and it will take its place on our shelves as no unwelcome addition to our means for working the homœopathic method.

Diseases of Infants and Children, and their Homœopathic Treatment. By Dr. E. HARRIS RUDDOCK. London: The Homœopathic Publishing Company, No. 2, Finsbury Circus. 1878.

WE have great pleasure in noting this excellent manual, which gives in a small bulk all that is really wanted by non-medical persons. The list of medicines is well chosen and the doses range from 1 to 6 centesimal; most frequently the 3rd decimal. The directions for the diagnosis and treatment of the disease included in this manual are very clear and concise, and the general hygienic directions correct and sensible and not overdone. We notice the way in which he disposes of the shallow objections commonly urged against vaccination.

On the whole this is one of the best domestic medical books we have met with, and though we deplore the excess of popular homœopathic books over scientific ones in our language, still as some such books must exist we are glad to see good ones.

MISCELLANEOUS.

British Homœopathic Congress, 1873.

THE fourth Annual Congress since their recent revival was held in Leamington on Thursday, September 11th, 1873. Dr. Sharp presided, Dr. Gibbs Blake filled the place of Vice-President as well as his standing one of General Secretary, Mr. Fraser continued to act as Treasurer, and Dr. Collins represented, as Local Secretary, the place of meeting.

We leave, as hitherto, the detailed report of the meeting to our contemporary, the *Monthly Homœopathic Review*, as it is needless to duplicate what it is sure to do, and sure to do well. Suffice it here to note that the President's address was on his favourite subject—the Action of Drugs, and that the papers read were "On Phthisis," by Dr. Herbert Nankivell; "On Pyrexia," by Dr. Gibbs Blake; and "On the Therapeutic Portion of the Repertory," by Mr. Proctor. These were everything that could be desired, and we are glad to be able to report a decided improvement in the quality of the discussions which followed. We complained last year of the crudeness and triviality too often displayed in the remarks made by the speakers, and suggested that this was mainly due to the want of information as to the subject matter of the papers, and hence of preparation of thought and speech about them. Such lack was well supplied on the present occasion by the insertion in the programme of the Congress of a syllabus of the contents of each communication. The result was very satisfactory, and we hope that the precedent will be followed at all future congresses.

The elaborate address of the President is, as such, beyond the range of criticism. But of the three subjects embraced therein, "The Kind of Action of Drugs," "The Action of Small Doses," and "A Law for the Dose," the third necessarily challenges the inquiry: What of new and what of true is there in it? Does its promulgation make the British Homœopathic Congress of 1873

an epoch in the history of homœopathy? or is it but another of the many guesses on the subject which experience has consigned to forgetfulness?

Dr. Sharp considers that all previous maxims and rules for the dose fail in two points. First, their suggesters "admit that there are many exceptions to them; so that they can have no claim to be received as natural laws. They resemble the rules of grammar, not the laws by which God governs his works." Secondly, they are derived from the consideration of the disease and of the patient, not of the properties of the drug. In these last he considers that the knowledge desired must reside, and that it only needs eliciting. He thinks that by ascertaining the action of small doses, as distinct from large ones, upon the healthy subject, the *rationale* of their action in disease and the guide to their choice as remedies may be found. For this purpose he has instituted experiments on himself with the 1st centesimal dilution of several active substances, such as *Aconite*, *Digitalis*, *Phosphorus*, *Spigelia*, *Opium*, *Veratrum*, *Mercury*, and *Tartar emetic*. He has noted the effects of this dilution on the frequency of his pulse and respiration, and finds that they are precisely in the opposite direction to the action of large doses. He thinks, therefore, that the *rationale* of the curative action of small doses of medicines selected by the rule *similia similibus* is that they really act as *contraria contrariis*, and that we have but to find, by experiment in health, the range of dose in which these opposite directions obtain, to know whence to select the precise remedial quantity.

We wish we could think that in these facts and thoughts Dr. Sharp has added anything to our knowledge. We regret to have to express our judgment that they are neither new nor (save in a very limited range) true. That the action of remedies, while *phenomenally* expressed by *similia similibus*, is really *contraria contrariis*, has long been a familiar theory to homœopaths. How far back in our literature it may be found we cannot say; but there is a paper of Dr. Madden's in this Journal for 1861 (vol. xix, p. 293) suggesting it, and he is there confessedly reproducing some American views. The fact, indeed, upon which the thought is there based is not described so much as the opposite action of large and small doses, as the difference of the behaviour of these in producing *primary* and *secondary* symptoms. Large doses cause long-enduring primary symptoms, and the

secondary reaction is but slight and brief. With small doses, on the other hand, the primary stage is but faintly marked, and the secondary phenomena appear as the main and enduring effects of the drug. Hence, when in diseases resembling the primary symptoms of a drug small doses of it are given, a brief and perhaps imperceptible aggravation is followed by its lasting secondary action in a direction counter to that of the disease, and hence curative of it.* We apprehend, however, that Dr. Sharp's facts about the opposite action of large and small doses are really instances of this wider generalisation. The details of his experiments fully bear out such a conclusion. *Aconite*, he says, in small doses retards, in large ones quickens the pulse; but he admits (and confesses to be surprised at the fact) that the small doses "quicken the heart's action for a brief period before they retard it." The same thing he finds to be true of *Phosphorus*, and, in the inverse order, of *Digitalis* and *Spigelia*.

It would seem, then, that the point Dr. Sharp makes is not a new one. He has added some experimental data to our stock; but the conclusion he draws from them is but that of Fletcher, Madden, Reith, and many another expressed in different words. Indeed, Dr. Sharp's own putting of the matter has of late years become familiar to toxicologists; and Claude Bernard does not hesitate to assert that all poisons have a double action according to the quantity in which they are administered.

But we must go farther, and affirm that the generalisation in its best expression is but true in a limited range, and can supply no basis for a general law of dose.

It is one of our most telling arguments against the enantiopathic method that it is only workable in a certain narrow sphere. What is the opposite of gout in the toe, of prosopalgia, of waterbrash, of a thousand other morbid conditions? They have no contraries: and the method fails when brought against them. The rule *similia similibus*, on the other hand, is always available if only we have a drug which has caused the *simile* of the disease before us. But if we could not treat it by contrary remedies, how shall we explain its curative action by supposing this to move in a contrary direction? The fact is, we can only apply that hypothesis

* This is the doctrine which, first sketched by Fletcher, has been of late so thoroughly worked out by Dr. Reith in the literature of both schools in this country.

in functional derangement of simply *plus* and *minus* character. Quick and slow pulse, contracted and dilated arteries, hurried and retarded respiration are contraries, and the fact of the primary and secondary action of some medicines in these spheres may be brought to bear upon them. But beyond these there lies a large field of practice in which the derangement is qualitative, or the alteration organic, and here no opposite action of differing doses will avail us. *Arsenic* in large doses causes scaly exanthemata. What is the opposite effect of small doses by which we are to cure them? *Phosphorus* in poisonous quantities sets up fatty degeneration of the liver,—what will it do in the first dilution of a contrary nature to this process?

Indeed, it would seem that Dr. Sharp has not yet grasped the idea of the *qualitative* as distinct from the quantitative action of drugs. It was not until last year's Congress that we were able to congratulate him on having advanced beyond the seat to the character of their influence; and apparently the region is yet too strange to him for all its features to become apparent. In the present address, while dwelling much upon "kind of action," the instances of it cited by him are all but one of the *plus* and *minus* type. But this is the easy part of pathogenetic science. The difficulty begins when we advance to the multiform phenomena of our provings. Not only will no rule but *similia similibus* enable us to utilise these in practice, but no theory of *similia similibus* being really *contraria contrariis* will explain their therapeutic action. We must rather, it seems to us, look in the direction which science is indicating of the way in which corresponding undulations of light and sound neutralise one another. But, however this may be, our concern now is with Dr. Sharp's "Law of Dose," and we regret that we are unable to welcome it as any settlement of the question.

The Congress of 1874 is to be held in London in the month of June. Dr. Dudgeon is the president-elect; Dr. Yeldham the vice-president; Mr. Fraser and Dr. Blake retain their wonted offices, and Mr. Pope will act as local secretary.

BOOKS RECEIVED.

Experimental Researches on the Causes and Nature of Catarrhus Æstivus (Hay-fever, or Hay-asthma). By CHARLES H. BLACKLEY, Esq., M.B.C.S. London: Baillière, Tindall, and Cox, 1873.

The Diseases of Infants and Children, and their Homœopathic Treatment, with Hints on the General Management of Children. By E. HARRIS RUDDOCK, M.D. London: The Homœopathic Publishing Company, 2, Finsbury Circus, 1873.

Report of American Institute of Homœopathy. Twenty-sixth Session.

On Consumption and Tuberculosis of the Lungs. By E. H. RUDDOCK, M.D. London: Homœopathic Publishing Company, 1873.

Taking Cold (the cause of half our diseases): its Nature, Causes, Promotion, and Cure. By JOHN W. HAYWARD, M.D., M.R.C.S., L.S.A. Fourth Edition, enlarged and improved. London: Turner.

The Baths and Wells of Europe. By JOHN MACPHERSON, M.D. Second Edition. London: Macmillan, 1873.

Report of the Homœopathic Pharmaceutical Society for 1873.

The Dublin Journal of Medical Science.

The New Zealand Homœopathic Gazette.

The Monthly Homœopathic Review.

The Hahnemannian Monthly.

The American Homœopathic Observer.

The Western Homœopathic Observer.

The Chicago Medical Investigator.

The North American Journal of Homœopathy.

United States Medical and Surgical Journal.

The Western Homœopathic Observer.

The New England Medical Gazette.

The American Journal of Homœopathic Materia Medica.

El Criterio Medico.

Bibliothèque Homœopathique.

The Calcutta Journal of Medicine.

The Food Journal.

The Chemist and Druggist.

The New York Journal of Homœopathy.

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PATHOGENETIC RECORD;

AN ARRANGEMENT OF THE

PHYSIOLOGICAL AND TOXICOLOGICAL EFFECTS OF DRUGS,

Collected from Medical and General Literature.

BY DR. E. W. BERRIDGE.

ALOEES.

1. *Medico-Chirurgical Transactions* (London), 1867, vol. 1, p. 581.

The watery extract of *Aloes* was diluted with an equal quantity of distilled water, and the solution thus obtained was used for an injection. The subcutaneous injection of this fluid gave rise to considerable local tenderness and swelling, with general malaise and restlessness. No stool was produced till twenty-four hours had elapsed, when a scanty one was passed. The arm injected was swollen, tender and painful on motion, for three days after the operation.

2. *Ibid.*, 1852, vol. xxxv, p. 255.

To a young dog *Aloes* gr. iij was given twice, once fourteen hours and again two hours before he died. A curious circumstance happened before life was extinct. Strong inspiratory movements were going on, and when one of the large veins was wounded air rushed in in large quantities; immediately after this a loud systolic blowing murmur, audible at some distance from the body, commenced and continued for some time; it evidently was occasioned by the frothy condition of the blood expelled by the contraction of the ventricle. The liver was quite natural,

(APPENDIX B. J. H.)

a

moderately full of blood; the gall bladder was moderately distended with yellowish bile. The whole length of the intestinal tract was tinged yellow by the bile which had flowed out; the mucous membrane was nowhere injected, or showed a trace of irritation; the epithelium remained attached. There was accumulation of oily matter in the central cells of the lobules of the liver; it contained distinct whitish spots about the size of a pin's head. The cells were generally pale granular bodies, and did not contain more than a very little oil, nor had they any decided yellow tint. The ducts were very distinct, being rendered opaque by oily deposits between their nuclei. (By Dr. Handfield Jones.)

3. *London Medical Gazette*, 1850, vol. ii (vol. x of New Series), page 131.

A young pregnant woman was advised to take for rheumatism an aloetic mixture. She boiled three ounces of aloes in a pint of wine in an untinned saucepan, and let the mixture stand from evening until the following morning in the same vessel, and then drank a cupful. She was shortly afterwards seized with violent pain in the abdomen, nausea, vomiting, strangury, urgency to stool, tenesmus, tremors, and syncope. (Quoted from *Caspar's Wochenschrift*, August, 1849.)

4. *Ibid.*, 1837, vol. xix, p. 269. Remarks by Dr. Greenhow.

It evidently acts by irritating the mucous membranes of the intestines, and producing a larger secretion; this is manifest from the large quantity of mucus often passed with the evacuations when aloetic aperients have been given. Lewis says "it occasions commonly great irritation about the anus, and sometimes discharge of blood" (in doses of $\frac{1}{4}$ drachm or 2 scruples); "in smaller doses, as ten or twelve grains repeated once or twice a day, it not only unloads the first passages, but attenuates and dissolves viscid humours in the remote parts, warms the habit, quickens the circulation, and promotes the menstrual and hæmorrhoidal fluxes; its continued use renders the blood more sensibly fluid." Cullen says it empties the great intestines. I have known innumerable instances of persons who very constantly obtained this effect from one or two grains of *Aloes*. When administered in larger doses (than two to five grains) it is apt to cause griping, heat about the anus, and, if long continued, hæmorrhoids; it also loses its effect of properly

emptying the large intestines, producing small frequent evacuations, consisting principally of mucus, and attended with tenesmus, the abdomen being at the same time distended and tender, the patient complaining that "his bowels feel as if scraped;" the pulse is sensibly quickened, and a sense of constriction is felt about the head. The long-continued use of aloetic aperients has a tendency to produce emaciation, and their action upon the bowels becomes capricious and uncertain, sometimes failing to produce any effect, and at others producing frequent small evacuations, as before described; the mucus being occasionally passed in long membranous bands, and sometimes in substances resembling pieces of flesh. I have also seen two cases in which the mucus passed along with the evacuations had all the appearance of fat. It is not difficult to conceive that such a state of irritation, kept up for any length of time, or frequently recurring, must ultimately tend to some organic change of structure; and I think it highly probable that stricture in the rectum may sometimes have its origin in this source, and I have seen cases of enteritis which I believed to be traceable to the inordinate use of *Aloes*. I have many times found that when *Squill*, along with other diuretics, failed to act, the addition of *Aloes* has speedily produced a copious diuresis.

DATURA STRAMONIUM.

1. *Asiatic Journal*, 2nd series, vol. xvi, 1835, part 2, p. 14.

About sixty persons took the seeds in food about midnight. Next morning all appeared in a state of intoxication and two died. (Quoted from *Meerut Observer*, July 10th. Our colleagues in India should endeavour to obtain the complete account of these cases.)

2. *London Medical Gazette*, 1834-5, vol. xv, p. 194. Case reported by Dr. E. W. Duffin.

On Saturday, 26th ult., my little daughter, aged two years and three months, called with her mother at the house of a friend, where it appears that the child whilst amusing herself swallowed unobserved some seeds of the *Datura Stramonium* that were lying on a side table to dry for garden use. The quantity eaten, or more properly swallowed, for there were none of them masticated,

was afterwards ascertained to exceed 100, and weighed about sixteen grains, as ascertained by subsequently weighing a similar number of seeds.

No symptoms of a nature sufficiently alarming to arrest particular attention presented themselves before the lapse of an hour, although on reflection the child had previously (indeed from within half an hour of having swallowed the seeds) evinced great irritability of temper, accompanied by general itching of the whole surface of the body, but more especially of the face, and conducted herself like a person slightly intoxicated. Her mother, ignorant of the cause of these indications, had regarded them simply as the effects of bad humour, and reproved her accordingly. To these succeeded flushed face, wildness of manner, suffused eyes, maniacal expression, ineffectual efforts to vomit, incoherent and rapid utterance, which very soon became wholly unintelligible; screaming, catching at imaginary objects in the air, or rather striking at them—for it was evident that these spectra were of a frightful nature, since at the moment of darting out the hand in the direction where the eyes were fixed, she always suddenly and with great vehemence withdrew herself, expressed the utmost terror in her look, and then hid her face; at the same time screaming and sobbing violently. Her eyes would to appearance follow the imaginary object for a moment or two, before she made the effort to escape from its supposed approach. She rapidly became furiously delirious, struck at, pinched, or attempted to *bite* every person who came near, or any object that was offered to her.

By 2.30 p.m., *i. e.* within a space of two and a half hours from the time that she must have swallowed the poison, the child had not only lost the power of utterance, but that of voice also. She could now only utter a hoarse croaking sound, attended with a sonorous croupy barking cough, and was unable to swallow in consequence of the violent spasm which affected the muscles of deglutition* when she made the effort. This state of spasm, judging from the nature of the cough and the croupy character of the inspirations, pervaded also the muscles of the larynx. She

* This symptom, conjoined with those enumerated, excited in my mind apprehensions of hydrophobia, until the matter ejected from the stomach by vomiting removed all doubt of their cause.

now knew no person, and had been wholly insensible to surrounding objects for above one hour and a half. The pupils were dilated, had been so from the first, and continued in this state till she died. The voluntary power of the extremities was gone, and the limbs were violently agitated by spasmodic twitching and jactitation (not by regular convulsions) alternately with short paroxysms of tetanic spasm (opisthotonos).

Notwithstanding all this active excitement, accompanied with hot and perspiring skin on the surface of the trunk, and flushed (slightly swollen) face, the pulse was almost imperceptible from the first; but as far as it could be felt it was natural in regard to velocity, and the inferior extremities were cold. Neither was there apparently any active determination of blood to the brain, if we may estimate this from the state of the anterior fontanelle, which was neither tense, hot, nor in the slightest degree raised by the cerebral pulsations; these, on the contrary, were scarcely perceptible.

In this condition, the severity of the symptoms undergoing occasional remissions of a few minutes' duration, she remained for about three hours, when a state of coma supervened, but she did not sleep, though at first somewhat so disposed. She still continued to be affected with convulsive twitching and jactitation of the limbs, alternated with short paroxysms of rapid vibratory spasmodic motions of the hands and forearms; of a peculiar, though, I believe, diagnostic nature, as regards the effects produced by poisons of this class. The muscles of the face were never affected by spasm, nor the expression of the countenance contorted in the slightest degree during the whole course of the operation of the poison.

The comatose state lasted about two hours; like the former it was attended with incapability of swallowing; but evidently the cause was of a totally opposite nature to that which had produced the same symptom in the first stage. It was now decidedly the result of atony or paralysis of those parts which had been formerly affected with spasm. A slightly stertorous state of the breathing indicated that a similar change had taken place in the muscles of the larynx. During the continuance of the coma the pulse returned, it was uncountably quick, and estimated to exceed 200, sharp, small, and thready; the respiration was extremely hurried averaging about 100 in a minute; each inspiration, how-

ever, completely filled the lungs. A tympanitic state of the bowels now proclaimed itself; the belly became extremely tense, and in consequence prevented me detecting another symptom that manifested itself on examining the body after death, viz., paralysis of the bladder and consequent incontinence of urine from repletion of that viscus. It need hardly be added that the evacuations were passed unconsciously, which added to the difficulty of detecting this symptom. At 1 a.m. there was a return of excitement, but not so severe as that which first presented itself; neither was it attended by ocular spectra or tetanic spasm; the respiration at one time exceeded 140 in a minute. At 8 a.m. on the Sunday morning she again became comparatively tranquil, and began to manifest symptoms of exhaustion, but was still affected with frequent twitching and the vibratory motions already described. In this state she continued, gradually becoming weaker, till noon, when she expired, exactly twenty-four hours from the time of swallowing the seeds.

Treatment.—As soon as it was surmised that the child had swallowed something of a deleterious nature, an emetic of *Ipecacuanha* and *Tartrate of Antimony* was administered, or rather forced down the throat; but this not appearing to be sufficiently powerful, it was followed up by one of *Sulphate of Zinc*. Such, however, was the effect of the poison on the sensibility of the stomach that repeated doses of both these emetics were given before vomiting could be produced. The state of spasm already alluded to in the pharynx likewise impeded materially a full ejection of the contents of the stomach; and together with the age of the child and the insoluble nature of the substance swallowed, rendered recourse to the stomach-pump inadvisable. In the course of two hours upwards of twenty seeds were dislodged, and as it was not probable that many more had been swallowed and the efforts to vomit were on the decline, a large dose of *Castor oil* was forced down the throat and an enema injected into the rectum. Both these remedies were several times repeated, and doses of *Calomel* and *Jalap* several times administered, before the bowels, which appeared to be equally as torpid as the stomach, could be moved. About 8 p.m. the means began to take effect and in the course of the night upwards of eighty more seeds were discharged by stool; the child also vomited repeatedly, but brought off no more seeds from the stomach.

During the comatose state cloths dipped in cold water were applied to the head and ten leeches to the temple; the child was also immersed in a warm bath. Dr. Thomson suggested that about a scruple of calcined *Magnesia* and four drops of *Liquor potassæ* should be given every half hour on the presumption that it might neutralise the specific operation of the poison, but nothing appeared to have the least influence in mitigating the symptoms.

Post-mortem inspection.—The natural appearance of the body externally was not at all changed; the countenance remained placid; the limbs more supple and pliant than usual; abdomen considerably swollen, tense, and tympanitic.

The scalp when divided was very exsanguineous; dura mater unusually adherent; arachnoid membrane perfectly transparent, somewhat more adherent to the pia mater than common, but not morbidly so; pia mater natural in every respect.

A medullary section of the brain might be said to present rather more red points than usual; this was observed more particularly on the left side, but not sufficiently to admit of being regarded as a morbid appearance. No effusion in the ventricles.

The blood was found to be semifluid throughout the body; the few coagula which were met with in the auricles of the heart and large veins were very feebly formed and easily broken down.

The medulla oblongata was divided very low down so as to afford an opportunity of judging of the condition of the spinal marrow, but nothing particular presented itself to notice.

The lungs were natural; the left ventricles of the heart were found empty; the parietes of the left side very hard and powerfully contracted; no coagula in the right. A slight unusual blush pervaded the pharynx and œsophagus to about one third their extent; but a very distinct band of vascularity about half an inch broad was formed at the junction of the tube with the pharynx; the larynx was similarly injected, but not quite in so marked a degree; the rima glottidis was thickened and very turgid. The gall bladder was distended; bile had transuded and was effused on the intestines. The stomach and intestines presented an extremely healthy appearance throughout; the peritoneal surface was rather paler than usual. Not a single seed was found in the whole extent of the canal. There was one

slight invagination of the jejunum, about half an inch in extent. The bladder was distended with urine.

The only appearances then meriting the appellation of morbid were those detected in the pharynx and larynx, and extending to the tubes proceeding from these.

8. *Lancet*, 1886-7, vol. ii, pp. 826-92. Lectures by G. Sigmond, M.D., containing quotations and original remarks.

Bergius (see original given below).

Störck slept in the room where he had expressed the juice from the fresh leaves; on waking in the morning he had an obtuse pain in the head; it did not prevent him, however, from following his usual occupation, and after breakfast this sensation left him.

Sir Philberto Vernatti says that the Chinamen formerly used *Datura* as a fermentation to a sort of drink much beloved by the soldiers and the mariners, called *suykerbier*, which makes them raging mad. I have seen divers soldiers and mariners fall into the rivers and ditches, being stupefied by their drink aforesaid, who were rather worse when they were taken out than before.

Swaine's case occurring at Brentford, quoted (see original).

Fowler's cases (ditto).

Hein has also given us an account of two infants, who, from a similar cause, had convulsions, sense of strangulation at the fauces, and hydrophobia.

Blancard also states a case of a girl, eighteen months old, in whom raving, biting, foaming at the mouth, and convulsions ensued.

†. *Duffin's* case quoted (see original).

Rush's cases mentioned only; no quotation.

Bartram's cases quoted. In one case detailed in the *Transactions of the College of Physicians at Philadelphia* there was idiocy without fever; the child appeared very happy, talking and laughing, in constant motion; the pulse natural, the tongue clean, and no internal function except that of the brain disturbed.

There are instances in which idiocy is mentioned as the principal symptom developed. (Sigmond's own remark.)

Beverley.—Case quoted from his *History of Jamaica*, and given entire in C. Hering's *Materia Medica*, symptom 312.

Sigmond's own remark. (This case I afterwards found to be

by Orfila. See *Bulletins of the Faculty of Medicine of Paris*, 1819, No. 9.)—There was a very extraordinary case of its effects which occurred at Minorca. The case to which I allude was that of a lady who had suffered from intense periodical headache, which destroyed sleep, and rendered her totally unfit for any occupation; her health in other respects was unimpaired. Various remedies had been in vain tried, and at last a grain of an extract of *Stramonium* was given every successive morning for four days; as no relief followed, the dose was doubled on the fifth, and in about four hours afterwards symptoms of poisoning by *Stramonium* were developed. The face was of a purple-red colour, swollen; eyes prominent; pupils dilated; eyelids half closed, and vision nearly lost; hearing impaired; muscles of lower jaw, lips, right arm and leg convulsed; left side completely paralysed, and the intellect singularly disturbed; continual incoherent stammering, weeping, and other expressions of dreadful suffering; deglutition difficult, abdomen sore, pulse small and frequent; respiration tight and hurried; temperature natural; cold sweats confined to the paralysed part. Ten leeches were applied behind the ears, sinapisms to the feet, injection of common salt and vinegar administered, and vinegar and water given internally. The phenomena gradually subsided, the paralysed limbs began to execute slight movements; about midnight there came on another but less violent attack, which was relieved by antispasmodics; weakness and indistinct articulation only remained; the headache never recurred. In nine days the patient was completely restored.

Mash's case at Northampton, referred to (see original).

Greding has increased the dose of an extract from one grain to half a drachm in twenty-four hours in mania, and some of his patients in this disease have taken from twelve drachms to two ounces with no other effect than first producing tormina and then lax bowels.

Kämpfer (see original below).

Garzia d' al'Horto, in his *Historia dei Simplici Aromatici*, states that in Malabar, when thieves intend to rob an individual, they drug his food with some of the flowers, which causes him to lose his senses, and to be seized with uncontrollable laughter, in which state he willingly submits to be pillaged.

Lindenstolfe's case referred to, but not quoted.

Gmelin, in *Geschicht. der Planzengifte*, gives a minute account of a case of poisoning by *Stramonium* given in coffee. Delirium, nymphomania, tremors, convulsions and tetanus were among the symptoms.

Sigmond's own remarks. Sometimes this poisoning where corporeal recovery has taken place has been followed by a total loss of reason. The Turkish females, when shut up in their monotonous seraglio, find opportunities of stupefying their husbands and of disordering their intellects, and of revenging themselves even before their very eyes by making them witness to their embraces of some favoured lover. (This last is quoted from *Lindenstolfe*).

Faber (see original below).

Murray, in *Apparatus Medicaminum*, is referred to, but not quoted.

Orfila's experiments mentioned. See his *Toxicology*.

Case of the *Duke de la Vauguyon* mentioned.

Sigmond's own remarks. I have in no instance found any bad effect from it, excepting a disordered state of vision, in which every object appears coloured with rainbow tints, which I have uniformly found to be a monitor of more untoward symptoms.

Dr. Begbie's remarks, quoted from the *Edinburgh Medical and Chirurgical Transactions*, 1824 (see original below).

Wendt's case referred to. The original is found in *Rust's Magazine*, vol. 24. Bree's observations (see original).

Duncan's remarks in his supplement to the *Edinburgh Dispensatory* quoted. In one instance no less than 158 grains of *Datura tatula* were taken in six days; it caused difficulty of deglutition, disturbed vision, loss of sleep, and general disorder of the nervous system. In another case 243 grains were taken in one day for neuralgia, and the same train of symptoms was the result.

In a third case it was impossible to give more than fifteen grains, as delirium and great agitation were produced.

Dr. Gibbs's case is erroneously quoted (see original below).

4. *Lancet*, 1836-7, vol. ii, pp. 819-21. Lecture by A. T. Thomson, M.D.

Beverly's remarks quoted. (See above.)

Thomson's case.—A man and his wife who were both rheumatic

consulted a druggist who recommended them to take an infusion of *Datura Stramonium*. A strong infusion was made, and the wife took a cupful of it on going into bed, and five minutes afterwards the husband took a similar quantity, and went to place himself in bed, when he found his wife powerfully agitated, making singular movements, her eyes fixed and staring, and unable to reply to the questions put to her. At that moment, as she afterwards related, she felt as if a fire had mounted to her head, and also affected her stomach. The husband became sick and vomited; after which he wished to go out to get assistance for his wife, but he had scarcely gained the door of the room ere he felt so enfeebled that his knees bent under him, and he was forced to sit down, but in a few seconds he fell senseless to the ground; on recovering he vomited repeatedly, was greatly agitated, became torpid, with a lethargic tendency, and lost for some time all sense of feeling. These symptoms continued eight hours with the husband and thirteen with the wife, and the latter was afterwards affected with gastric irritation which continued nearly a month.

Cases of *Swaine* and *Mash*, quoted. (See originals.)

Thomson's case of poisoning by six grains of the extract. Dryness of the mouth and throat with difficulty of deglutition, the abdomen swelled and tender; the face swollen; the pupils dilated with loss of vision; the speech incoherent, owing chiefly to a convulsed condition of the lower jaw; the right side was paralysed. Gastric symptoms and severe cephalæa (? cephalalgia) remained for many days.

Cases of *Duffin* and *Heim* (? *Hein*) reported. They have been referred to before, but *Heim's* case differently quoted by the two reporters. The *original* must be examined. *Heim's* symptoms are here given as "drowsiness, great heat of body, furious delirium, swelling of abdomen, constriction of fauces, convulsions and hydrophobia."

Cases by *Kämpfer*, *Gmelin*, *Murray*, *Biglow*, mentioned, but not quoted.

5. *Lancet*, 1830-1, vol. ii, p. 560.

Case reported by Dr. James Mash, of Northampton.

H. G—, æt. 36, of delicate habit, swallowed by mistake two teacupfuls of the *Infusion of Stramonium* for *Senna tea*. About ten minutes afterwards she was seized with giddiness of the head,

dimness of sight and fainting. Her neighbours hearing a noise in her bedroom came to her assistance, and immediately applied to a druggist who sent a powerful emetic which did not produce sickness. Two hours after she had taken the liquid I saw her and found her quite insensible; pupils dilated and insensible to the stimulus of light; the whole muscles of the body convulsed, countenance flushed, and the pulse full and slower than natural. I immediately used the stomach-pump, and filled the stomach with large quantities of tepid water several times with the best effects. In a few hours afterwards, when I went to visit her a second time, I found her downstairs drinking her tea and quite cheerful. I should have stated that a common enema was administered which operated freely on the bowels. She has felt no ill effects since, except that her sight is not quite so good, and that her head feels lighter than normal.

6. *Lancet*, 1845, vol. i, p. 471. Spence's case quoted from *Boston Medical and Surgical Journal*. (See original.)

7. *Lancet*, 1847, vol. ii, p. 298. Reported by Dr. Robert Allan, Mauritius.

An Indian labourer named Hitoo was condemned by the Court of Assizes to ten years' hard labour in chains. He worked very unwillingly for about a month, and was brought into the prison infirmary on the 10th of February, 1846, in a state of insensibility, with stertorous breathing, dry black tongue, injected conjunctivæ, and dilated pupils, pulse ranging from 100 to 120. He was said to have eaten *Stramonium*, which grows where he was sent to work that morning, six and a half hours previously. The stomach-pump was applied, which brought up many entire seeds and fragments of seeds of the *Datura Stramonium*; but the action of the heart soon became more feeble and notwithstanding the administration of stimulants he continued to sink, and died an hour after admission, being about seven and a half hours after he was supposed to have taken the poison. The heart was felt beating several seconds after respiration had ceased.

The body was examined nineteen hours after death, at which time there were evident marks of commencing putrefaction (Fahrenheit's thermometer being 88°); it was muscular, five feet four inches in height, and about forty-five years of age.

Head.—Great turgescence of the integuments as well as of the dura mater, tunica arachnoides, and pia mater; brain firm and highly injected; the choroid plexus turgid, and the ventricles contained a little bloody serum; there was a small plate of bone deposited in the falx near the crista galli.

Chest.—Old ribbon-like adhesions between the pleura of left lung and that lining the cavity of the chest on the anterior part; the substance of both lungs very vascular in many parts; heart flaccid.

Abdomen.—Liver, spleen, pancreas, kidneys and bladder normal; the stomach contained about four ounces of ingesta, composed of rice, eighty-nine seeds of *Stramonium*, besides many fragments, pieces of manioc and tripe; there was a patch of extravasated blood the size of a shilling in the mucous coat of the larger curvature of this viscus, and a smaller patch of extravasation near the pyloric orifice; the whole mucous coat of the stomach was slightly congested; many entire seeds as well as fragments of seeds were also found throughout the entire length of the small intestines. About 6 ounces of urine were collected from the bladder at the post-mortem examination which I submitted to Ossian Henry's process for the detection of *Daturine*, namely, precipitation by infusion of gall-nuts (*Journal de Pharmacie*, Paris, tome xxi, p. 223, May, 1835). Several clear crystals were obtained, some being pentahedral, while others were surrounded with a quantity of oily matters, which obscured their shape. Some of these crystals were dissolved in distilled water, and the solution dropped into the eye of a man with lenticular cataract. In half an hour the pupil was visibly dilated, and became very much so in an hour afterwards. Dilute sulphuric acid was added to some of the product of Ossian Henry's process, and in a few days many acicular crystals of *Sulphate of Daturine* in tufts were observed.

8. *Lancet*, 1851, vol. i, p. 599. Reported by Dr. H. Parker Laurence, of Scinde.

On the evening of February 10th a prisoner was brought to the General Hospital from Bukkur fort, in the following state:—he was quite insensible to sound, seeming not to hear the loudest talk; rousing and shaking had no effect; his eyes were partially open, and the pupils more dilated than I have ever seen.

The stupor was of a drunken kind; there was no disposition to sleep, but a constant restlessness and turning of the body, attended by a most peculiar fidgety manner of twisting the fingers and catching at some imaginary object. This was varied now and then by grasping the bedclothes very tight; his body was warm, more from this exercise of the arms than any other perceptible cause; the tongue was always rolling; the pulse rather quick, and the patient often shrunk as if suffering from a creeping sensation over his body.

Nobody knows how or when he became so; but he was found in this state at 2 a.m. It was my belief that the man was under the influence of some vegetable poison. Accordingly a dose of seventeen grains of *Sulphate of Zinc* was given, followed by warm drinks, and wet cloths ordered to be kept to the head. The zinc having no effect, a second dose was given, a good scruple; this likewise failed. I then used the stomach-pump, but brought nothing from the stomach. After waiting a little time I gave fifteen grains of the *Sulphate of Copper*, and directed an enema to be used, and that mustard sinapisms be placed on the nape of the neck and some way down the spine.

11th.—In the same state; the emetic not acted, nor have the bowels been moved; the pulse very sharp and quick. Ordered *Ipecacuanha* powder, one scruple; *Potassio-tartrate of Antimony*, one grain, and an enema of *Sulphate of Magnesia* and warm water; vomited once and brought up several seeds of the *Datura*; bowels unmoved. I now bled him at the arm, taking away fully ten ounces of blood; ordered another enema of oil of turpentine, castor oil and tepid water; head to be shaved; cold applications thereto, and the emetic as before at 2 p.m. Evening: still insensible, bowels unmoved, slight sickness and more of the *Datura* seeds.

12th.—Bowels twice freely moved during the night, when several of the *Datura* seeds came away. To get demulcent drinks only. Evening: appears to be coming round, and takes a childish notice of signs, but unable to talk.

13th.—Is disposed to be very happy; laughs and talks incessantly; bowels open. Evening: has sobered down; quite sensible, and says that the seeds of some plant had been given him by another man, at his own request, as medicine.

9. *London Medical and Surgical Journal*, vol. viii, p. 704, December 26th, 1835.

No name is attached to this report. This is apparently editorial.

The thorn apple is a strong narcotic poison, producing vertigo, torpor, death. Dr. Barton mentions the cases of two British soldiers who ate it by mistake for the *Chenopodium album*; one became furious and ran about like a madman, and the other died with symptoms of genuine tetanus.

In one case (a patient of Dr. Barton), in which thirty grains were given for a dose, it dilated the pupil of one eye, and produced temporary paralysis of the eyelids. *Stramonium* smoke excites a sense of heat in the chest, followed by copious expectoration, and sometimes attended with temporary vertigo or drowsiness, and rarely nausea.

10. *London Medical and Surgical Journal*, 1836-7, vol. ii, November 26th, 1836, page 387.

Report by H. F. Clarke, of Winchelsea.

The next step was to deaden his natural acuteness. This was effected by changing his coffee, redolent of orange-flower water, for a decoction of the seeds of *Stramonium*, which puts a stop to thought, leaving the mind nearly a chaos, volition and sensation merely remaining, at the same time that it produces a kind of stupor of a highly pleasant nature. This was visible in the half-sleepy way in which he smoked his chibouque.

During the action of a decoction of *Stramonium* seeds I found the greatest difficulty in recalling the transactions of the previous day.

11. *Boston Medical and Surgical Journal*, 1831, vol. iii, p. 810. Copied, and possibly abridged, from a translation of Amelung's paper in *Bul. des Sc. Med.*, 1829. The original is in *Hufeland's Journal*, November, 1828.

According to Dr. Amelung, the first effect produced by the internal administration of *Stramonium* in small doses is a remarkable dryness of the mouth and throat. The voice becomes a little hoarse; the head is afterwards more or less affected, according to the dose that has been taken; the intellectual faculties become a little obtuse; there is a lassitude and weakness

of the limbs; though the patient does not experience any particular weakness; there is no disposition to sleep; nevertheless, the *Stramonium* produces agreeable dreams like *Opium*; in small doses it does not affect the appetite; in larger doses it diminishes it; the salivary and urinary secretions are augmented; by this latter effect the *Stramonium* approaches in properties the *Digitalis purpurea*; this analogy becomes stronger again by the sedative action that the *Stramonium* exercises on the sanguineous circulation. In a small dose the *Stramonium* augments at first, but its prolonged use diminishes the activity of the circulation; its effect is slower, but more certain than that of *Digitalis*; it does not disagree with the stomach, and does not produce so prompt a loss of muscular power; finally, its prolonged use does not produce so readily symptoms of poisoning as *Digitalis*. The great disposition to hæmorrhages which is observed in subjects poisoned by *Stramonium*, the very prompt putrefaction of their bodies, indicate a powerful depressing action on the vital powers, and authorise the arranging this article with *Digitalis* and *Hydrocyanic acid* in the class of those which considerably diminish the oxygenation of the blood.

12. *Boston Medical and Surgical Journal*, 1834, vol. ix, p. 10. Three cases reported by W—.

First case.—In the winter of 1825 I was called in the night to visit Mrs. S. R., who had been afflicted a few days with a severe cold, but who was suddenly affected on the night of my visit with very distressing and alarming symptoms. I found her in a state of extreme agitation, declaring that she should not live, that she had taken poison which would immediately destroy her life.

She was blind; the pupils were dilated to the utmost extent; her pulse was rapid so as scarcely to be counted, and very feeble. She had puked frequently; complained of pain and vertigo and great confusion in the head, faintness and indescribable anxiety at the stomach; was extremely restless, not at all disposed to sleep; her skin was cold and covered with sweat; countenance wild, exhibiting excessive anxiety and alarm; and, notwithstanding that her friends had made every effort to allay her fears, and satisfy her that she had taken nothing but herb tea, she still insisted that she had taken poison and should die.

Alarmed myself at her singular appearance and symptoms, I

inquired of her mother who was an experienced nurse what she had taken, and learned that she drank freely of a tea of *Coltsfoot* and *Liquorice*, the former having been gathered by the mother herself and carefully labelled, and the latter had the previous evening been procured of an apothecary.

Fearing that some narcotic poison had been accidentally mixed into the ingredients of which the tea was made, I gave an emetic which operated freely without affording relief. I then gave her twenty-five drops of *Laudanum* in a weak brandy sling every hour, till relief was procured; applied mustard paste to her stomach, warmth to her extremities, and gave her freely of warm aromatic drinks. After six hours of the most indescribable distress and frenzied delirium she fell asleep, and remained in quiet repose for some hours. When she woke she was calm; so blind as to be unable to distinguish one person from another; pupils of the eyes greatly dilated; she was very thirsty; tongue dry; vomited frequently through the day. Pulse was frequent and soft.

I was now satisfied that she was under the influence of *Stramonium*. As I could gain no information from the apothecary, I examined the bundle of *Coltsfoot*, and found it mixed with a considerable quantity of the leaves of the *Stramonium*, which solved the whole difficulty. The thirst, dilated pupil, and dimness of sight continued for some days, when my patient recovered.

CASE 2.—On the morning of June 24th, 1825, I was requested to visit Miss E. F— who was represented to be in great distress and furiously deranged. When I arrived about 4 p.m., she had sunk into a state of complete insensibility, was unable to swallow any fluid, or to be aroused sufficiently to take the least notice of me or her friends. Previous to my arrival, she had been greatly excited and delirious. I found that the pupils were dilated; the skin cold and moist; pulse 120 in a minute, small and soft; her countenance pale; extremities cold, &c. Her mother informed me that being a little unwell, she had given her some lettuce and gold thread tea, which she took very reluctantly. This was taken at 11 a.m., five hours before my visit.

I immediately directed that compresses be wetted in oil of turpentine and applied to her limbs while covered so that rapid evaporation could not take place. An injection of the *Turpentine* with

sufficient *Laudanum* to retain it was thrown up the bowels. Volatiles were applied to the nose, and warmth and friction to the surface to excite the action of the skin. Not long after this course was adopted she was suddenly aroused; was highly delirious, nearly blind, thirsty, mouth very dry. Her pulse varied from 110 to 125, very soft and compressible. If she raised her head from the pillow she had vertigo, vomiting, and faintness. These symptoms satisfied me that she had taken some narcotic and probably *Stramonium*. I called for the cup of herb tea which was still standing, and found that *Stramonium* had been used instead of lettuce in making the tea. I gave her brandy and water, and every two hours twenty drops of *Laudanum* till the extreme distress and restlessness abated; when quiet sleep was restored, all danger was over, and she recovered very gradually.

CASE 3.—In October, 1825, I was called in great haste to see Mrs. W—, aged about forty, who was represented to be in a profound coma, having slept uninterruptedly all the afternoon and evening of that day.

Mrs. W— had just recovered from an attack of dysentery, of which disease two of her daughters were at this time seriously sick. When I visited the daughters in the morning, Mrs. W— informed me that she was seriously afflicted with piles which had followed her disease and were very painful, and she wished me to prescribe for her. I directed her to take one leaf of the *Datura Stramonium* as large as three of her fingers, and make a strong infusion, and take it as an injection. She prepared the remedy and administered it herself, no member of the family having any knowledge of it. When her husband returned from church he found her asleep in her bedroom. As she had had so little rest during the sickness of her daughters, he was gratified to find her so quietly reposing, and directed that she should not be waked to tea. Before bedtime, however, he became anxious at the length of time she slept, and attempted to arouse her. All his efforts were unavailing. She was perfectly comatose. Under these circumstances I was sent for. Recollecting my prescription for her in the morning, I hastened to the house and inquired if she had taken the injection. No person had any knowledge of it. Search being made, however, a vessel containing a large quantity of the leaves of *Stramonium* was found, from which, as I afterwards learnt, nearly a pint of strong infusion had been drained off and

taken as directed by injection, she not knowing that the plant was poisonous.

Her symptoms were of the most alarming character, and exhibited the operation of that dangerous narcotic to a greater degree than I had ever before seen. She was perfectly insensible as if dead, unless irritated by the harshest means; her pulse was 120 in a minute, small and soft; pupils fully dilated; tongue flabby and hanging out of mouth; surface pale and cold; respiration slow and irregular.

I gave her a wineglassful of *Oil of Turpentine* by injection, applied mustard and *Oil of Turpentine* to the surface; frictions, volatiles, &c.; put into her mouth frequently diluted brandy, *Spirit of Ammonia*, and other stimulants. It was many hours before she was effectually aroused. Before morning, by the most persevering efforts—pinching her, stinging with nettles, external heat, internal stimulants, and *Turpentine* injections—she revived and after a while was enabled to tell the story of her proceedings with the *Stramonium*. It was ten or twelve days before she entirely recovered from the symptoms produced by it. The piles were wholly cured, but, perhaps, the *Turpentine* injections had a share in the cure.

The effect of *Stramonium* on the pulse is different from that of most narcotics when pushed so far as to produce *ultimate narcosis*. I have almost universally found it increased in frequency, but not in power.

13. *Boston Medical and Surgical Journal*, 1837, vol xv, p. 60. Reported by Charles Hooker, M.D.

An Irish family was taken suddenly ill after eating a dinner of corned beef and boiled greens. The family consists of five persons, Mr. T—, his wife, and three children, the oldest about eight, the youngest about five years of age. I saw them about an hour after dinner, when the symptoms were immediately recognised as the effect of the *Datura*. The countenances had a wild idiotic expression, the pupils widely dilated, the sensorial functions perverted, and the muscular system subject to an irregular agitation somewhat resembling that of chorea. The appearance of the family was extremely ludicrous. The children were laughing, crying, singing, dancing, and playing all imaginable antic pranks. They had no correct estimation of distances or the size of

objects; were reaching their hands to catch hold of objects across the room, and again running against persons and things which they appeared to view as distant. The nailheads in the floor were pieces of money which they eagerly tried to pick up. A boy, apparently fancying himself undressed, caught a hat belonging to a student, thrust his foot into it, pulled with both hands on the brim, and began to fret that he could not "get on his trousers." The parents frequently called on the children to behave themselves; but their own actions being equally eccentric, they afforded a ridiculous exhibition of family government.

Sulphate of Zinc with *Ipecac.* brought from the stomach a large quantity of the *Datura* plant with other green vegetables; and under the use of *Camphor*, *Carb. Ammonia*, and warm aromatic infusion, the narcotic symptoms soon subsided.

14. *Boston Medical and Surgical Journal*, 1855, vol. lii, p. 85. An editorial communication.

Case mentioned which occurred in Oak Street, Boston. No symptoms given. Can any of our American colleagues ascertain the particulars?

The editor gives a case of poisoning by the leaves; the symptoms were nausea, pain, and stertorous breathing.

15. *Boston Medical and Surgical Journal*, 1856, vol. liv, p. 398. Reported by Dr. D. Calkins.

On the evening of November 25th, I was called to F. S—, a male child, aged four years, and was requested to be as quick as possible, as the messenger said the child was in spasms. I saw the child in about ten minutes after I was called. Found him in great distress; pulse 120; throwing his arms and limbs to and fro, and very restless; colour of skin a bright scarlet; pupils dilated. The scarlet colour extended over the face, body and limbs. I questioned his mother as to how he was taken; she replied that an hour before, he had been at play with the children, and came into the house and wanted some water; said his tongue felt big, and he appeared not to want much supper. She put him to bed as usual. He had not been in bed long, before attention was called to him by a scream as though he was frightened in his sleep. She found it impossible to do anything with him, and his father was called. As he inclined to be sick and to vomit, they gave him an infusion of snakeroot, which checked it.

He being no better as to other symptoms, a messenger was dispatched for me. From the appearance of the child, and the mother's history, I concluded it was a worm fit with stoppage of water, as his father told her he had often complained when urinating, and accordingly I gave him some simple remedies for the urinary trouble, with little or no effect. I then ordered injections, and at least twelve ounces were thrown up the rectum. After waiting one hour, and no movement of the bowels occurring, and the symptoms not much better, I came to the conclusion that there was a want of action from some cause, and accordingly gave powder of *Submur. Hydrarg.* gr. viij, *Pulv. Jal.*, gr. vj, M., at 9 o'clock; and left another powder of *Submur. Hydrarg.* gr. x, *Pulv. Jal.*, gr. viij, M., to be given at 1 o'clock if no movement took place from the bowels. No passage from the bowels taking place by 1 o'clock, and the symptoms being the same, the powder was given which caused full emesis and brought to light the cause of the trouble, viz. about a tablespoonful of the seeds of the *Datura Stramonium*. How the little fellow lived so long with them in him, it being about seven hours from the time I first saw him till he vomited them up, and how much longer they had been in him I know not. The medicinal dose is but half a grain. At the same time the vomiting commenced, the bowels passed off quite freely watery stools mixed with the seeds.

16. *Boston Medical and Surgical Journal*, 1862, vol. lrv, p. 261. Reported by Dr. C. E. Buckingham.

L. G—, a boy about six years, was found standing at the back gate of his father's house at about 6 p.m. on Saturday afternoon. He was known to have gone away from home immediately after dinner, and had not been seen by his family afterwards. He staggered into the house, drank a cup of tea in the kitchen, and was carried upstairs, having said in reply to a question, "I don't care;" but these were all the words spoken by him till after midnight. I saw him a few minutes before 9 o'clock. He was sitting in a lady's lap, his right cheek against her breast. The whole surface was of a bright crimson, but the skin was not dry, and the redness disappeared on pressure, returning very rapidly.

His teeth and lips were separated. The tongue was very dry and its tip was curled up, but not touching the roof of the mouth.

Both pupils were fully dilated, the iris being scarcely perceptible. The respiration strongly stertorous. The pulse was rapid and feeble. Both sounds of heart were distinct. The abdomen was tympanitic.

The history, so far as could be made out, was that he had eaten bread and butter with tomato catsup for breakfast; had been at school in the morning; had taken a dinner of bread and butter with milk, and had gone away to play immediately afterwards. With whom or where he had been could not be discovered. His usual companions had not seen him. He had vomited just before I saw him a parcel of seeds, supposed to be tomato seeds. On comparison, however, there was an evident difference. The tomato seed was about the same size but balloon-shaped. These were, as described in the books, "small, kidney-shaped, flattened on the sides," and *white*, not of a dark brown, as the ripe *Stramonium* seeds are. Convinced that they were *Stramonium*, I gave him by the mouth about a scruple of *Ipecac.*, and as much more in half a pint of warm water as an enema.

When removing him to bed I noticed that his limbs, though flexed, were rigid. Soon after, by irritating him, he was made to move, but the power of motion was mostly confined to the right side. Within two hours his left side recovered its power. He did not vomit for two hours after taking the emetic, and then vomiting was much aided by putting the spoon down his throat. The enema came away in part while vomiting. Before this time his skin was losing its redness, and he was inclined to get up, but would fall asleep in the act of rising. As in one stupefied with opium, his waking was with a start, as though dreaming. He picked the bed clothes as one in the low stage of fever, and if the hand were held before his eyes he felt for it at varying distances. When pinched or tickled after 10 o'clock, he became very angry, and muttered incoherently, turning upon his face and kicking backwards with alternate movements of the feet. There was no strabismus throughout.

Dr. Ellis, with whom I left him at 11 p.m., reports that he gave him a grain of *Tartrate of Antimony* in four doses, in the course of the following hour. After each dose he vomited, but nothing came up except those white flat seeds. There was no bile at any time. About midnight there was a voluntary dejection. He was then moving about, apparently conscious, but could give no

account of himself. About that time Dr. Ellis gave him four grains of *Calomel* which were at once thrown up. The doctor left soon after, directing senna and salts in the morning. This dose operated twice in the morning. On Sunday, at 1 p.m., I saw him again. He was about house and came to the door. The pupils were still somewhat dilated, and he could not distinguish figures from letters. Otherwise he seemed well, except that he could not remember the names of the boys with whom he had been on Saturday afternoon. He must have vomited some 250 or 300 seeds. I think more than the latter number. There are sufficient and good accounts of *Stramonium* poisoning in Wood, Bache, and Christison.

(These authors should be referred to for our M.M.)

17. *Boston Medical and Surgical Journal*, 1862, vol. lxy, pp. 811. Reported by Dr. J. O. Harris.

I was called to see the patients, an Irish woman aged about 60, and two children aged 8 and 5 years respectively, about 10 p.m.; and on inquiry learned thht the woman had at noon cooked a quantity of young stramonium plants—a part of the “mess” was shown me—for greens, and that all three had eaten of them. The time is so long since that I cannot recall all of the symptoms, but I remember distinctly that there was vomiting, cold, clammy perspiration, coldness of the extremities; small, infrequent, feeble, almost indistinct pulse; great pain in the region of the stomach and bowels; thirst, &c. Treatment restored the children, but the woman died next morning about 7 a.m., in a state of collapse, greatly resembling that of cholera.

18. *Guy's Hospital Reports*, third series, 1865, vol. xi, pp. 293-5. Reported by Alfred S. Taylor, M.D.

A student took about five or six grains of extract. “Two hours after having taken the poison my throat began to feel intensely dry, which increased to that state that I could not swallow, and with great difficulty breathe; my tongue felt quite spongy and totally devoid of moisture. The narcotic effect soon became evident, and I reeled as though intoxicated; the pupil of my eye was very dilated (even for thirty-six hours afterwards), and I was at one time nearly blind. I felt very nervous, excited and irritable, and continually paced up and down my room. The next

day I could scarcely see, and I was quite unable to read a book when I tried. For three weeks after I had a very sensible pulsation over my right eye, and even now I seem to feel the effects of the poison in my eyes, my sight being at times quite dim, though five weeks have elapsed. I was always relieved for a few seconds by imbibing any liquid. The serious effects lasted about eight hours."

Dr. Taylor adds some remarks from Charpentier's experiments, and from Bouchardat in *Annuaire de Thérapeutique*, 1864, p. 25. These should be referred to in the originals.

19. *Medical and Physical Journal*, 1811, vol. xxv, pp 377, 500; and vol. xxvi, p. 48. No name is attached to this paper; it is apparently editorial.

Storck's experiments quoted. (See above.)

Bergius.—"Odor recentis herbæ narcoticus, adeo fortis et afficiens, ut, cum plantam describerem, ex odore narcotico, et ex eo quod masticaveram folii frustum, temulentus quasi evaserim, haud secus ac si insuetus fumum tabaci hausissem."—*Mat. Med.*, i, 121.

Haller.—"Ex deterioribus plantis narcoticus est. Somnum facit adeo profundum, ut impune pudicitia puellæ violari possit, quæ hoc toxicum sumserit."—*Hist. Stirp. Indigen. Helvet.*

Sir Philbert Vernatti's remarks quoted. (See above). The original account is here stated to be given in *Spratt's Hist. Royal Society*.

Kæmpfer, as quoted by Paller says:—"Deliria facit apud Indos grata equidem, reformata hactenus planta virosæ efficacia. Nam omnino *Stramonium* est Indorum *Datura*, confirmantibus Missionariis Danicis."

Haller states that it causes delirium, mania, convulsions, paralysis, cold sweats, vehement thirst, tremors. A man who took a decoction of the fruit was sad, speechless; he lost the use of his limbs, and at length became furiously mad. These effects, however, depend upon the dose. A small quantity occasions a pleasant kind of delirium which disposes a person to be very good natured, and willingly part with his property. (No reference is given to Haller's works; the last part of the above paragraph seems to be editorial.)[†]

Garcia d' all' Horto referred to, and a quotation from the

original Italian, given from his *Dell' Historia dei Simplici Aromat.* published in 1589.

Sauvages.—"Nuper Monspelii plures nefarii capti sunt, qui viatores expoliaverunt propinato vino, in quo semina *Datura Stramonii* contrita et infusa fuerant, fassus est autem eorum dux plures ex eo veneno interemptos esse, cum veram veneni dosim ignorabat, atque ea dosis nimia lethargum inducebat; dosis vero minor tantummodo paraphrosynem minime lethalem in bene multis, quorum aliquot ipse interrogavi, creaverat."—*Nosolog. Method.*, pars. ii, p. 820.

Faber (quoted from his work on *Strychnomania*). "Celebre autem est maleficium apud Indos, quando nimirum sive fœminæ maritis imposituræ zelotypiæ, decoctum *Datura* illis propinant, quo fit, ut apertis oculis consortium nequitiam et turpitudinem propriam inspicientes, mente tamen turbati, cachinno tantum seipsos deludant, ac subsannatum morsus probent, cum,

Certant ingenio quisnam solertius instet

Aut vota lusum vertant in contrarium.

Dummodo commonstrant ficum prædulcibus uvis

Compressa qualem pollice efformat manus.

Aut miseri frontem pulsant resonante talitro

Unaque tractos capitis evellunt pilos.

Quo etiam modo servi nequam heris pocula solent infuere, ac palantium expilare thesauros, cujusmodi historiæ ludicræ pœnes authores leguntur citatos. Hujusmodi sine dubio fuerunt potiones illæ, quibus tres nebulones Augustæ Vindel. utebantur, ad inducendum hominibus vesaniam somnumque, securius post modum omnem substantiam eorum adportantes, quibus anno 1429, condignum præmium, furca, contigit."

Boerhaave in his *Hist. Plant. quæ in Horto Acad. Lugdun. Bat. crescunt* says:—"Hæc utuntur meretrices Javanenses, dum a primariis sunt conductæ, tum hanc plantam maritis suis dant et delirii species subsequitur, unde coram maritis lasciviam utuntur, et si hæc planta in majori copia detur, stupidi manent, languent et tandem moriuntur. Hæc planta facit mirifice insanire et temulentiam conciliat; qui hanc plantam comederunt, oculis apertis respondent, sed nullius rei memores sunt, nec putant se ulla re interesse; hinc tali potu utuntur Indi principes ad suos rivaes stupidos reddendos, adeoque imperio minus capaces tamen in vivis servant, ut populo tum possint ostendere."

Blancardus relates that a girl eighteen months old swallowed some seeds. In a short time she raved, striking everything, biting, and tearing the bystanders with her nails, treading on the feet of others, and foaming at the mouth; she presently died in horrid convulsions.

Kramer's case, from swallowing seeds of *Stramonium* and fennel mixed with sugar in spirits of wine. It occasioned violent delirium; the patient was cured by drinking vinegar in which pepper was infused.

Hein.—Two infants in consequence of swallowing some seeds, were affected with somnolency, burning heat of body, fury, swelling of the abdomen, convulsions, *strangulatio faucium*, hydrophobia. These symptoms were relieved by oleaginous remedies, milk, acid drinks, and clysters.

Editor's remarks.—In a fatal case where some seeds were found in the stomach of the patient, the vessels of the brain were turgid with blood, and extravasation had taken place.

Fowler's case quoted (see original).

Swaine's case (ditto).

Bergius says (*Materia Med.*, tom. i, p. 122):—"Decoctum è capsulis iii seminalibus *Datura*, in lacte coctis, hora 8 a.m. epotum, vertiginem subito fecit; subsequente aphonía, agrypnia, frequente blatteratione, extremitatibus truncoque corporis frigidis, pulsu exili, celeri. Hunc statum excepit paralysis apparens totius corporis per horas 7, quæ tandem in furorem abiit. Hora 10 vespertina ad se rediit æger, et tranquille dormivit per noctem."

Greding in *Ludwig's Adversaria Med. Pract.* One extract is already quoted; the others are as follows:—"Nulli autem plura pilularum exhibere potuisse; cum pleriquesumtis tribus vel quatuor ejusmodi pilulis de capitis obnubilatione, oculorum hebetudine, siti insignitis auctis et sat copiosa salivatione conquererentur quod a longe majore dosi extracti Vindobonensis in præcedentibus non observaram."

Again, "hi omnes enim pilula grani unius pondere, præsertim matutino tempore, vix deglutita, oculorum hebetudine plus minus gravi et binas horas ad minimum durante, affligebantur ita, ut plerique tantum de oculorum caligine, ac si reticulo bombycino tecti essent, quidem de oculorum scintillatione rerumque oculis objectarum vacillatione; alii de visu, dupliciter quin et oblique res cernente, alius et quidam adolescens quindecim annorum de

presbyopia satis grave, et alius denique de solis, absentis licet, splendore, oculos graviter adficiente, conquererentur. Temporaria vero hæc oculorum ægritudo, intermisso *Stramonii* usu, statim quoque evanuit, ita, ut certo asseverare possim, neminem omnium postea oculorum quoddam incommodum retinuisse" (ditto).

In some instances the remedy occasioned shedding of tears, in others *lippitudo*; in some the head was affected with pain, and the faculties were "stupefied; some were affected with ebriety, many with vertigo and some with swooning fits. The imagination in some was principally touched, in others every mental faculty; "immo mentis plenariam perturbationem diu post ejus usum et tres denique faciem aliquoties rubore suffusam expertos esse. Ex quibus omnibus tam peculiares *Stramonii* agendi vis in caput, quam etiam veritas vetustæ jam opinionis, mentem ejus usu perturbari posse, satis elucet" (ditto).

Some of the patients were affected with extreme thirst, and dryness of the fauces, whilst in others a great flow of saliva was excited. The appetite during the use of *Stramonium* was generally good, and occasionally even keener than natural, though sometimes it was less. In several instances bilious vomiting was occasioned, and the bowels were frequently affected with diarrhoea, tormina and flatus. The secretions of perspiration and urine were promoted during its use. It also had much influence in provoking the catamenia; in one case they occurred after having stopped four years. In four women violent hiccup was observed, and in two a sense of itching over the whole body (ditto). Externally applied it is said to repel the milk from the breasts (*Editorial* remark).

Dr. Gibbs' case at Bath.—Patient was found sitting up with his head reclined on a sofa in a state of stupor. His recollection was impaired, and he seemed stunned and comatose. His pulse was scarcely to be felt, and there was no great force in the carotid artery. On enquiry into his case Dr. G— found that on the preceding evening the gentleman had been very much affected with shortness of breath, and that he had smoked *Stramonium*, the effect of which was that his breath became perfectly easy, but at the same time he had shown symptoms of stupor. He went to bed, passed a quiet night, and arose the next morning in the heavy comatose state in which Dr. G— found him on his arrival at the house. A large blister was applied to the back,

purgative medicines were administered, and the urine being deficient in quantity, a draught with squills and camphor mixture was ordered.

On the second day the blister had acted, the bowels had been open, and the urine in proper quantity and of a clear good colour. The mental faculties were somewhat recovered. The treatment was continued, and he was directed to take nourishment, having previously reduced himself very much with a view of alleviating the distress in his breathing.

On the third day his recollection was much better, his pulse perceptible, and some return of shortness of breath had occurred.

On the fourth day he suddenly expired after dinner either while sleeping or immediately on waking.

Dr. Bree's letter to the Editor follows. The following are extracts :

"The twenty-four patients who have been stated to have suffered injury from the smoking of *Stramonium* were all disordered in their breathing, and their dyspnœa at intervals assumed the form of convulsive asthma.

"Three persons experienced paralytic tremblings from smoking *Stramonium*. The pulse in each of these patients was so lowered that it became difficult to feel the beating of the artery.

"A patient had smoked the *Stramonium* a few times only and it affected her head with pain and confusion, and her stomach with sickness. She was next seized with an epileptic fit, the first she had ever experienced. This attack was followed by three more fits of the same kind at intervals of a few hours, and she became nearly insensible. The cough left her, the pulse became scarcely perceptible, and her mind was no longer capable of exertion. She was not wholly unconscious of her state, but stupor and somnolency overpowered the little energy she had, and her stools and urine passed involuntarily.

"Four patients smoked *Stramonium*. After some days' experience of this practice, one of them was still capable of coughing, but with so much pain of his head as to indicate immediate danger. Of two other patients who smoked *Stramonium* pneumonic inflammation affected one, and intolerable headache with dimness of sight attacked the other."

Dr. Gooch's cases.—In one patient smoking caused giddiness.

20. *Edinburgh Medical and Surgical Journal*, 1819, vol. xv, p. 154. Reported by Thomas Young, M.D.

A boy between two and three years old, ate a whole apple of the *Stramonium*, and it was nearly two hours before the fact was ascertained. A peculiar wildness of the look with general suffusion, and some convulsion was observed.

21. *Edinburgh Medical and Surgical Journal*, 1820, vol. xvi, p. 155. Reported by Dr. Benjamin Granger.

A girl about two and a half years old lately died from eating unripe thorn-apple. The child ate it between 5 and 6 p.m. on an empty stomach, but the quantity taken could not be ascertained. About 6 p.m. she was observed to stagger and appeared as if intoxicated. At 8.30 p.m. the symptoms were complete insensibility, dilatation of pupils, swelling of the under lip, voluntary muscles in a state of great relaxation, respiration hurried, the extremities cold, and the pulse little or none perceptible. The torpor gave place at irregular intervals to severe convulsive fits, during which the child shrieked violently, and the voice was particularly hoarse. Full vomiting was excited, and a considerable quantity of *Stramonium* was thus dislodged from the stomach, but without any return of consciousness, or any abatement of the symptoms. At 1 a.m. the paroxysms of excitement of the brain which had produced the convulsions had ceased to recur, and the jaw had become locked. At 8 a.m. pulse 160, strong and regular; heat of whole surface great; eyes half closed and lifeless. At 11 a.m. pulse 120, unequal and intermitting. The child lived till 3 p.m. On opening the body a large quantity of thorn-apple was found in the ileum; some of it in pieces that admitted being felt through the coats of the intestines, but the greater part in a state of minute division. A great part of the poisonous substance was intimately blended with the fluid secretions in the intestines, but as much of it as could be got away separately weighed nearly half an ounce. In the stomach only one particle of *Stramonium* remained, and none in the duodenum or jejunum. The bladder was distended, the blood-vessels of the pia mater remarkably loaded, and more water than usual in the ventricles of the brain.

22. *Edinburgh Medical and Surgical Journal*, 1833, vol. xxxix, pp. 377-83. Reported by John Davie Morries, M.D.

Experiment 1.—Six drachms of an acid solution, prepared from twenty grains of the oil of *Stramonium*, were given to a rabbit. In two minutes the animal was obviously affected; in five and a half minutes it fell on its side and could not rise, though it made violent and repeated efforts to do so. In thirteen minutes it was seized with convulsive stretching, and severe tremors of the limbs, accompanied by reflexion of the head; in fifteen with violent convulsions, succeeded by laborious breathing and total insensibility. It died in nineteen and a half minutes. The heart continued to contract for seventeen minutes after death.

Experiment 2.—The oil from which the solution was prepared was given to a rabbit and caused vertigo.

23. *Medical Repository*, 1800, vol. i, p. 541. Review of *A Dissertation (Inaugural) on the Properties and Effects of Datura Stramonium, or Common Thorn-Apple, and on its Use in Medicine*. By Samuel Cooper, Philadelphia. Samuel H. Smith, 8vo, pp. 58. 1797. This work should be examined.

24. *Boston Medical and Surgical Journal*. 1845, vol. xxxi, p. 361. Reported by Dr. Spence.

Thursday evening, November 10th, 1844, 10.15 p.m., was called to visit three women who were said to be in a dangerous condition from the use of some article that they had taken in the course of that evening. It was soon ascertained that they had steeped, as they supposed, about half an ounce of horehound in a pint of water for a slight cold, but the herb proved to be *Stramonium*, and they had each of them taken a portion of this infusion.

M. L— was upwards of 60, previous health feeble and delicate. J. L—, age about 30, constitution good. E. B—, upwards of 80, naturally of a very vigorous constitution, had suffered lately from bronchitis but was now convalescent.

Appearances.—They lie in bed stupid, with a muttering delirium, unable to articulate a single word. There is a certain and peculiar wildness of countenance. Their faces are flushed; pupils much dilated; conjunctivæ highly injected, with a total insensibility of pupils. Lips and tongue parched; no vomiting; breathing at times stertorous and laboured. Hands cold, with a trembling and slightly convulsive movement. Great rigidity of

the muscles of the back and neck. At times active attempts at utterance. For the space of three hours at intervals various antidotes were resorted to, as *Ipec.* combined with *Sulph. Zinc*, *Tartarised Antimony*, *Sulphate of Copper*, mustard and water, *Sal æratus* and vinegar, and draughts of warm water, tickling of the fauces, &c. The various combinations employed produced but little effect. Stimulants were then substituted, as a solution of *Carbonate of Antimony*, a strong injection of green tea, &c. apparently with some beneficial effect. Their use was continued at intervals.

CASE 1.—M. L—, Friday, 3 a.m. There is a decided improvement; can raise herself in bed, but mutters; 9 a.m., is conscious, though there is a wildness in her look; pupils dilated; talks at times coherently and then wanders. A purgative was ordered each patient. *Saturday morning*, complains of soreness of the throat and fauces. Has a loose rattling cough, with some expectoration. Mucilaginous drinks were ordered. She continued to droop gradually, and died apparently without suffering the following morning.

CASE 2.—J. L— could sit up, but was unable to stand, and resembled one intoxicated. Her symptoms were somewhat of an hysterical character. *Friday*, 3 a.m., is conscious, speaks distinctly, and seems aware of her condition; 6 a.m., pupils continue dilated. *Saturday morning*, well. An incident in her case is perhaps worthy of remark. She is a seamstress by trade, and is much occupied in sewing. At times, when under the influence of the poison, would seem to herself to be engaged in her usual avocation, and then would thread the needle, tie the knot at the end, and imitate in every respect the routine of procedure of one thus engaged.

CASE 3.—E. B— drank the most freely. The wildness of countenance in her case was very striking and almost startling. Pupils very much dilated, and almost insensible. *Friday*, 3 a.m., but little if any improvement; 9 a.m., is conscious though the wildness continues. Pupils considerably dilated, is much excited, talks thickly, and articulates with difficulty. *Saturday morning*, is better, though complains of great soreness and dryness of throat. Has improved slowly since then. Has at present some hoarseness of voice and cough, for which she is under treatment.

References also made to Wood and Bache (U. S. Dispensary), Pereira, Orfila, and Christison ; for which see originals.

25. *Medical Repository* 1800, vol. 2, p. 27. Two cases reported by Dr. Dewitt.

CASE 1.—On July 28rd, 1797 at 11 p.m. I was called in great haste to visit a child of Mr. S—, aged about two years, suddenly attacked, and said to be dangerously ill. When I arrived I found her apparently in the greatest agony, with a high fever, and burning heat and redness of the skin, attended with an itching eruption over the whole face and trunk of the body, but her feet and legs were paler and cooler than natural, her countenance appeared suffused and bloated, the pupils of the eyes were greatly dilated, the tongue furred and dry, pulse weak and so frequent as hardly to be counted. She had an incessant hiccup, and frequent ineffectual retchings to vomit. Sometimes she would appear for a moment to be relieved from her anxiety, and sit silent with her eyes fixed on the ground as if absorbed in contemplation, whilst her hands were employed in picking at her clothes, or anything that happened to be before her, similar to those in the last stage of some fevers. Then again she would start involuntarily, quick as if a shock of electricity had passed through her body, with an air of affright and a loud shriek ; her limbs writhed with convulsive motions and her countenance and body distorted in every direction, apparently affected with great pain and anxiety. At other times in her intervals of ease, she would sing and sometimes laugh, but could not be made to utter a word, neither did she appear to take notice of anything that was said to her. In short, the functions of her mind appeared to be entirely deranged. These paroxysms occurred at irregular intervals of five or ten minutes, and continued about the same period. She manifested great aversion to fluids of every kind. When a cup of water was brought to her lips she would instantly start from it, and sometimes relapse into her paroxysm ; so great was her aversion, that it was with the utmost difficulty a teaspoonful of any fluid could be forced down her throat. On particular enquiry I found that she had been in the garden that afternoon, and some of her playmates had observed her to take some seeds in her mouth, which from a specimen brought me proved to be the thorn-apple's. I exhibited an emetic, composed of three grains

of *Tart. Antimon.* in divided portions at short intervals, judging that a less powerful one would be quite ineffectual to produce full vomiting while she laboured under the violent operation of *Stramonium*. When it operated she brought up a tablespoonful or more of the unripe seeds, and diffused the rank smell of that plant over the whole house. After this the child appeared to be better and easier; her pulse became somewhat stronger and slower, and her skin a little cooler.

24th.—At daybreak I found her in a stupor, from which she could with great difficulty be roused, resembling a person in the highest stage of intoxication from spirituous liquors. She had frequent startings and twitchings of the limbs; her pulse was fuller, stronger, and slower than last evening; skin a little cooler; feet warmer; eruption stationary. I ordered a dose of *Castor oil* to be administered immediately. Towards evening the oil had operated; she had somewhat recovered; stupor diminished; pupils of her eyes not quite so much dilated; eruption not so red; she looked sullen and fretful.

25th.—Slept well last night; has recovered rapidly, but is much debilitated; staggers a little when she walks; skin nearly of its natural colour, but rough and dry; pupils of the eyes contracted to nearly their natural dimensions; eyelids swelled, and face rather bloated. At 12 o'clock was attacked with a high fever, a slight return of the eruption, and much disposed to sleep. She now became thirsty, and inclined to drink; directed to use lemonade. The pupils of her eyes were now contracted more than natural. Ordered repetition of *Ol. ricini*.

26th.—Fever continues; pulse preternaturally tense. I administered a more powerful cathartic.

27th.—Purgative had operated well; brought away a large quantity of greenish fæces; no fever; pulse natural.

28th.—Observed a great many vesications on her skin, filled with a pellucid fluid; they were extremely numerous and very small, many of them not larger than a pin's head, covering her whole face and trunk of her body. Ordered a continuation of the laxatives, and the lemon juice for common drink.

29th.—She recovered strength fast; plays about the house; appetite increases; vesications drying up.

CASE II.—A young married woman had taken a decoction of more than a tablespoonful of the dried seeds as a cure for some

trifling complaint. Shortly after, she was seized with a delirium, her tongue furred; her cheeks flushed; skin warm, and her pulse full and tense. I immediately administered six grains of *Tart. Antimon.* in divided portions. Three hours afterwards the emetic had operated but little. She was now in a furious mania, requiring several persons to hold her. She passed large quantities of urine involuntarily as she walked over the floor. Pulse quick and tense; directed venesection to fifteen ounces, and administered a brisk cathartic. In two or three days she entirely recovered, without the least recollection of anything that had happened during her illness.

Dr. Dewitt proceeds to make some observations, in which we find the following additional symptoms as belonging to the *first* case, though not particularly described there,—“Depressed eyebrows, and distorted mouth; restless condition, and violent shrieks.”

Dr. Lobstein's case in *Medical Transactions* is mentioned.

26. *Medical Repository*, 1800, vol. ii, p. 32. By Dr. Alexander King.

The operation of this medicine, when taken in small doses, is moderately diuretic, and impregnates the urine pretty sensibly with the smell of the seeds. It is cooling, anodyne, and sedative. It relaxes the tone of the solids, lessens the contractile force of the arterial system, and consequently modifies the violent attrition of the circulating fluids against their containing vessels, lowers the pulsation of the arteries, and renders the pulse slower, more uniform and equable, when excited by violent stimuli. If taken in large doses it produces the following symptoms:—The first sensible effect is in the sight; there appears a preternatural dilatation of the pupil of the eye; vision is rendered indistinct and confused, objects appear multiplied, diversified, and variously coloured; the patient complains that he does not see clearly; he cannot discern a small object, such, for instance, as the point of a pin or needle; he sees objects in the room which do not exist, and complains of a numbness of the head, attended with vertigo. It also affects the organs of speech. He falters in pronunciation; his tongue is rendered paralytic, or when he tries to put it out imitates the motions of a person who tries to do the same in a nervous fever. The whole nervous system is disordered;

various parts of the body become paralytic. From the senses it extends its influence to the mental faculties. The imagination is confused, and disturbed with fear. Terrifying apprehensions perplex the mind, and impress on the countenance the image of this passion. These symptoms all disappear in the space of twenty-four or forty-eight hours, sooner or later, according to the degree in which they prevailed, without any medical assistance. I have known an instance of a young lad who ate these seeds, which produced a distorted eye, that remained ever afterwards.

27. *Medical Repository*, 1802, vol. v, p. 36. Reported by Dr. Samuel Brown.

About 10 a.m. she was observed to catch at the blaze of the fire in a very singular manner, and a few minutes afterwards fell on the floor as if she had been paralysed on one side. In a short time symptoms of violent fever came on, with delirium, and a scarlet efflorescence over the whole body, which had not entirely disappeared when I saw her first at noon. This efflorescence was much more bright and lively than that which characterises scarlatina. Through the day the delirium continued, with short intervals of reason. An unceasing disposition for motion in all the muscles, weeping, screaming, laughter, and rapid incoherent exclamations, formed the leading features. Once or twice the child had made feeble efforts to vomit. On presenting a candle to the child I discovered an unusual dilatation of the pupils and a remarkable squinting of the right eye, which, however, was not constant. The pulse was extremely irregular; sometimes it was hurried and fluttering, sometimes it was tense and strong, and frequently its action was not discernible. The motions of the limbs and body resembled those which mark the highest grade of *chorea Sancti Viti*, but were much more convulsive and violent, and excited in the spectators rather a *painful* than a *ridiculous* emotion. I administered a strong dose of *Emetic tartar*. It was long before I could produce nausea; and, as the first efforts to vomit were abortive, I made use of a feather, which excited one feeble motion. No seeds were discharged, and I found great difficulty, even by the feather, in awakening the powers of the stomach. I then gave eighteen drops of *Ol. tartar., per deliquium*, in a teaspoonful of warm water. It had not reached the stomach two minutes when full vomiting took place, and seven seeds of

Stramonium were thrown up. In the morning I found that, notwithstanding she had slept well, some slight convulsive symptoms, together with wildness of countenance and dilatation of the pupils, remained.

28. *Dublin Quarterly Journal of Medical Science*, 1867, vol. xliv, p. 11.

Sauvages mentions that robbers infesting Montpellier in his time drugged the wine in taverns with the juice of the seeds of *Stramonium*; those who drank it could not speak a word for two or three days, though wide awake.

(Copied from *Sauvages' Nosolog. Method*, tom. i, p. 777.)

29. *Dublin Quarterly Journal of Medical Science*, 1870, vol. xlix, p. 213 (misprinted in my *Index* 249). By Dr. Nicholls.

An elderly gentleman was in the habit of smoking *Stramonium* very freely, mixed with a small quantity of tobacco, for the relief of asthma. After several pipefuls "he would begin to call things by their wrong names, *e. g.* his boots, logs of wood; the bedroom, the stable, &c., and this without knowing it; and it is remarkable that he almost always miscalled the same things. He was a very small drinker, and always remembered the subjects of conversation, but not his language." After a sound sleep he would regain the power of speaking intelligibly.

30. *Dublin Medical Press*, 1842, vol. vii, p. 54. Reported by Dr. Dassier. Translated from *Comptes Rendus des Travaux de la Société de Médecine de Toulouse*, 1841, and *Gazette des Hôpitaux*.

On September 20th, 1840, two children, a boy, aged 4, and a girl, aged 2, whilst amusing themselves with the fruit of *Stramonium*, bruised them between two stones, and being attracted by the seeds, still white, were induced to eat them. Some extraordinary sensation, some hallucination, interrupted their sport, which lasted for about half an hour, for suddenly the two children ran into the house terrified and uttering cries. Their gait was staggering; they leaped rather than walked; their face was red and excited, and the eyes haggard. They both complained of extreme pain at the lower part of the throat, and eagerly drank cold water. Ineffectual efforts to vomit soon

supervened; the most violent contractions of the stomach only expelled some stringy foam from the mouth. The pupils became extremely dilated; the injection of the face augmented; both the children were agitated with convulsive motions, and uttered hoarse, incoherent, and often inarticulate cries. *Olive oil* was given at once. The boy vomited copiously, and experienced an almost immediate improvement; the girl was not so fortunate, and was soon attacked with violent delirium, so that she could with difficulty be restrained; her heart pulsated violently; she was violently agitated, and scratched the attendants who endeavoured to confine her to bed. Leeches behind the ears, sinapisms to the legs, and sugar and water as a drink, were prescribed, and these means quickly subdued the symptoms. The boy, indeed, seemed to be cured, save that he talked with great volubility, and often incoherently.

In the evening the symptoms returned with the greatest intensity in both patients. During the night the boy shrieked violently; his eyes sparkled; the heart pulsated with the most extraordinary violence; he suffered from the most ardent thirst, and passed urine almost incessantly; exposure to the light of a candle caused him to utter the most terrible cries.

The girl was affected somewhat similarly, but less violently. She was more depressed, perspired from the entire surface, and passed scarcely any urine.

Towards morning the symptoms had almost entirely ceased in the boy, but the girl was motionless, and almost cold; her respiration was short, and her pulse small and quick. A cupful of water acidulated with vinegar was administered to the boy every fifteen minutes. As the condition of the girl was more alarming, sinapisms were applied to her legs and thighs, and purgative enemata were administered. She soon passed several frothy stools, in which the seeds of *Stramonium* were discerned. After two days passed in tranquil sleep the symptoms had all disappeared.

31. *Dublin Medical Press*, 1847, vol. xviii, p. 199.

Case copied from the *Lancet*, and already given here.

32. *Dublin Medical Press*, 1848, vol. xx, p. 40. Reported by Dr. B. F. Jones, and copied from the *Western Journal* (American).

Mrs. K—, æt. 31, suffering from amenorrhœa, took twenty drops of the tincture of the seeds, diluted with alcohol, three times a day, increasing the dose by one drop each day. On tenth day reported that she had commenced the day previous to evacuate blood from the bowels in small quantities, and at irregular intervals. To stop medicine for two weeks, and to resume at thirty drops *ter die*, increasing the dose daily as before. In two weeks the menses returned, regular and plentiful.

33. *Dublin Medical Press*, 1856, vol. xxxvi, p. 356.

Dr. Calkin's case, imperfectly copied from the *Boston Medical and Surgical Journal*. (See above.)

34. *Medical and Philosophical Commentaries*, 1773, vol. i, p. 74.

Dr. Rush's case, copied from *The Transactions of the American Philosophical Society*, Philadelphia, vol. i.

The symptoms here given are "Violent fever, delirium, tremors in her limbs, and a general eruption on the skin, accompanied with considerable swelling, itching, and inflammation."

35. *Medical and Philosophical Commentaries*, 1775, vol. iii, p. 18.

This is simply a review of a work called *Dissertatio Medica de Stramonii usu in Morbis Convulsivis*. Auctore Adolph. Fried. Wedenborg, 4to, Upsaliæ." This work, which apparently contains some of the pathogenetic effects of *Stramonium*, should be examined.

36. *Medical and Philosophical Commentaries*, 1777, vol. v, p. 161.

Two cases reported by Thomas Fowler.

CASE 1.—October 12th, 1777. M. S—, near six years of age, and of a healthy constitution. Between 12 and 1 p.m. the day before, she had swallowed three quarters of the seeds of a fresh, ripe, middle-sized thorn-apple. About 2 p.m. she began to look stupid, seemed to forget herself, and gave incoherent answers. At 3 p.m. they gave her some bread and milk, which she attempted to swallow, but could not, upon which they laid her down upon the bed, where she seemed to sleep for about half an hour; but when she awoke her belly, tongue, face, and eyes, were obviously swelled, and the two latter were also very red.

These last symptoms abated about 6 p.m., but from 3.30 to 7 p.m. she seemed to sit like a perfect idiot. At 7 p.m. she seemed to have a motion to stool, and passed a living *lumbricus teres*, fourteen inches long, with a little water, but without any fæces or relief of symptoms, for soon after she began to grow worse, biting a man's hand, sometimes crying out that she saw cats, dogs, and rabbits, at the top, sides, and middle of the room; at other times with great eagerness catching at imaginary objects with her hands, and declaring that she saw many people who were not present. She suffered a continuation of these symptoms with little variation, and totally without rest, from 8 p.m. to 6 a.m. this morning, being all that time restrained in bed by force in a raving and maniacal state. At 8.30 p.m. last night she took about half an ounce of *Ipecac. wine*, and about half an hour afterwards, that not operating, they gave the child four grains of powdered *Ipec.*, but without effect. Towards morning she had a small costive stool. About 8 a.m. she drank near an English pint of milk, and was become somewhat more composed, but still not rational. At 9 a.m. (the time at which I first saw her), I found her a little come to herself, but still frequently incoherent, and looking rather stupid. Her pulse was about 100 strokes in a minute, and her breathing not difficult. I gave her immediately a powder composed of four grains of *Calomel* and eight of *Jalap*, and in half an hour's time it made her throw up once very freely, upon which she immediately fell into a sound sleep, and did not wake till near 1 p.m., when she was perfectly sensible and composed, and made no complaint but of a pain in her head.

13th.—The purgative seemed to operate freely yesterday afternoon. She had three loose stools before 5 p.m., two more in the night, and four or five to-day. Since the operation she has had a tolerable appetite, slept well, and has no complaint but the remains of the headache. Pulse 96.

15th.—The remains of the headache went off yesterday, and she is now entirely free from complaint.

CASE 2.—October 12th, 1777. G. B—, æt. 9, in a good state of health, swallowed a quarter of the seeds of a thorn-apple at the same time as the former patient. About 3 p.m. she found herself affected with considerable headache and a hiccup and swelling of the face, but these symptoms went off by the usual

time of going to bed ; nevertheless, she had but a troublesome night, awaking three or four times with sickness and vomiting. This morning she rose free from symptoms, except a slight headache ; but as she did not appear to be open in her belly, I gave her also a purgative about 9 o'clock, which has since given her several loose stools.

15th.—Two days ago the headache went quite off, and she has been free from complaint ever since.

37. *Transactions of the Medico-Chirurgical Society of Edinburgh*, 1824, p. 285.

Dr. Begbie's report of clinical cases.

In one case there was a degree of that unpleasant nervous sensation referred to the throat which has been mentioned by authors. It was not, however, lasting.

38. *Charleston Medical Journal and Review*, 1854, vol. ix, p. 743. Reported by Dr. C. B. Faust.

On June 23rd I was sent for in haste to see a child of Mr. C—, aged 1 year and 8 months. On my arrival I found the child labouring under the following symptoms:—The whole body of the child was of a scarlet-red ; skin hot and dry ; tongue redder at the apex than the base, and dry ; fauces almost white and dry ; respiration somewhat accelerated ; pulse full, but not preternaturally frequent ; face somewhat swollen ; pupils enormously dilated and insensible to light ; the muscles of the whole body convulsed, and the child screaming almost incessantly.

At about 1.30 p.m. (a few minutes after my arrival) I administered the following:—*Calomel*, gr. v, *Jalap*, gr. v, to be followed in a few hours by a dose of *Ol. ricini*. I then had warm pediluvia ordered, and also cold water poured continuously upon the head ; after using these means for twenty minutes, the child dropped into an apparent sweet slumber and slept about twenty minutes. In about twenty minutes from the time the child went to sleep it awoke, and was like a mad child ; it would hold out its hands as if it wanted a glass of water, then bring them to its mouth, and sip as if drinking water or other fluid ; it would put its fingers into its mouth, and even bite them, and also its mother's fingers whenever she put them about its mouth, also screaming incessantly.

I had the cold water continuously applied to the head, and administered *Ipec.*, gr. v, followed by warm drinks every few minutes.

I continued this for about an hour, but could not produce emesis. I then administered *Sulph. zinc.*, gr. v, followed by draughts of warm water, for fifteen or twenty minutes, and again administered *Sulph. zinc.*, gr. v, in the course of fifteen or twenty minutes longer; vomiting commenced, and there was thrown up about twenty *Stramonium* seeds, intermixed with some indigestible matter of the stomach. I endeavoured to keep up vomiting with warm drinks (which the child took very reluctantly) and irritating the fauces, until it had thrown up fifty-five seeds.

At this time (about 5 p.m.) the vomiting had ceased, although ineffectual efforts were made, and my efforts in reproducing it seemed to be unavailing. I had a mustard sinapism to the epigastrium, and the cold water assiduously applied to the head, which seemed to compose it more than anything else.

At 9 p.m. the child went to sleep again; the pulse at this time natural; respiration natural; skin warm, and not so red as before; pupils still dilated very much, but previous to going to sleep the patient was much more composed.

I then left the following powder:—*Calomel*, gr. v, *Jalap*, gr. v, to be followed at 5 a.m. by a dose of *Ol. ricini*.

At 7 a.m. I found the patient much better than I anticipated, and was informed by the parents that they had to wake it to give it the medicine I had left; and when they had given it to him he soon went to sleep again, and did not wake till the morning, when they administered the *Castor oil*, but as it had had no effect on the bowels when I arrived I ordered another dose, and another if it did not operate by 9 a.m.

As I have remarked, I found my patient much better than I anticipated, although the pupils were very much dilated yet and it could not yet walk; on attempting to walk it would stagger like an intoxicated man, and would fall, although rational. When I returned at 2 p.m. I found my patient running about, and was informed by the mother that the medicine had operated well (it took three tablespoonfuls of *Oil* to move the bowels), and had brought away at least a tablespoonful of *Stramonium* seeds.

Dr. Faust mentions a case reported in Taylor's *Medical Jurisprudence*, and one in Barton's *Medical and Physical Journal*, vol. i.

39. *American Journal of the Medical Sciences, New Series*, 1844, vol. vii, p. 231.

Stramonium excites a scarlatinous redness of the skin and excitement of the genital organs, with salacity. (Translated from *Medicinische Zeitung* and *Encyclographie des Sciences Médicales*, May, 1843.

40. *American Journal of the Medical Sciences, New Series*, 1848, vol. xvi, p. 485.

Dr. Allan's case quoted. (See original above.)

41. *American Journal of the Medical Sciences, Old Series*, 1880, vol. vi, p. 235.

Amelung's observations quoted. (See above.)

42. *American Journal of the Medical Sciences, Old Series*, 1836, vol. xix, p. 271.

Hooker's cases copied. (See original above.)

43. *American Journal of the Medical Sciences, Old Series*, 1836, vol. xxii, pp. 455-8.

Sigmond's cases copied. (See original above.)

44. *American Journal of the Medical Sciences, Old Series*, 1829, vol. v, p. 251. Reported by Dr. R. E. Griffiths.

Charles L—, æt. 3, ate a few seeds with the following result:— He was not seen till about five hours after he had eaten them, at which time his sensorium was much disordered; there were strong convulsions, alternating with great excitement of mind; the pupils of his eyes were so much dilated as almost to obliterate the iris; pulse rapid and contracted; face and upper part of body universally covered with a vivid erysipelatous redness, which gradually disappeared after venesection. This state of things continued for about fourteen hours. The restoration of his senses was sudden and unexpected. Three days afterwards his body became covered with an eruption resembling rubeola, except that it was more prominent; this eruption lasted about twelve hours.

45. *American Journal of the Medical Sciences, New Series*, 1847, vol. xiv, p. 260.

Effects of the *Datura sanguinea*, quoted from Tschudi's *Travels in Peru*. The original work should be referred to for this and other cases.

46. *American Journal of the Medical Sciences, New Series*, 1852, vol. xxiv, p. 269.

Reports by Dr. Giraud, copied from *Transactions of Medical and Physical Society of Bombay*; also given in *British and Foreign Medico-Chirurgical Review*, January, 1851.

The *Datura*, indigenous to India, is probably less fatal than the *Stramonium*. In many cases three stages of symptoms are observed; primary delirium, sopor or even coma, and secondary delirium—a single stage, that of delirium only, occurring in mild cases. The primary delirium may be vociferous or merely garrulous, the patient usually manifesting excessive timidity. In both this and the soporific stage he is constantly engaged in picking at real or imaginary objects, and sometimes in performing such antics as to render laughter on the part even of friends unavoidable. Several of these movements seem to depend on perverted vision, which destroys the power of judging of the distance of objects, and which may be due to the widely dilated pupil, a persistent symptom. The pulse and temperature, usually natural, undergo in some cases extremes of exaltation and depression. In the majority of cases the soporose stage is absent, the delirium subsisting from six to ten hours. On recovery the person usually recollects nothing since the meal at which he was poisoned, so rapid are its effects. (*Query*.—Does the *Stramonium* also grow in India?)

47. *American Journal of the Medical Sciences, New Series*, 1862, vol. xliii, p. 54. Reported by Dr. Charles Carroll Lee.

On September 3rd, 1861, three well-marked cases of poisoning by *Stramonium* seeds were admitted to the Pennsylvania Hospital. One was a man, aged 31, the other two were women, aged respectively 34 and 58 years.

They partook of some whiskey which contained some *Stramonium* seeds. The man drank a cupful, the elder woman about a gill, the younger only one or two mouthfuls. A child of the

latter was also given a little of the mixture, and it was in this case that the effects of the poison were first noticed. Within four or five minutes after taking the draught the child became violently flushed in the face, the eyes glittered and rolled about, and it tottered so as almost to fall from its chair. This alarmed the mother, who, although already giddy and half-blind, managed to run with the bottle to a neighbouring druggist. With much difficulty she again reached her house, where she found the other woman and the man lying speechless on the floor. They were at once taken to the hospital. The man and elder woman were nearly comatose, their faces flushed to an almost violet hue, the conjunctivæ injected, and the pupils were insensible to light, and so strongly dilated as to leave visible merely a rim of iris; the skin of the face and upper extremities was burning hot; the tongue and throat parched and dry; respiration slow and laboured; pulse 100, and very tense and full.

The younger woman had taken a smaller dose of the poison, and had reached only the maniacal stage of its influence; the skin was scarlet and burning hot, and the mydriasis as marked as in the other cases; the tongue parched; intense thirst, but no constriction of the fauces on swallowing; the respiration was hurried; the pulse fluttering, and beating 140 to the minute. The patient was violently delirious, resembling in a marked degree the most excited stage of *delirium tremens*, struggling to get out of bed, and continually rolling from side to side; she was unable to stand by herself, and, unless supported, fell forwards to the ground. When her hands were not restrained it was observed that she pursued imaginary objects in the air, or picked at the bed-clothes, as in the delirium of typhoid fever.

The man exhibited much the same symptoms as the women, catching and striking at imaginary objects around him; but the retina was insensible to light, for a hand passed close in front of the eye failed to make him wink, unless the cornea was touched; he was also more comatose at first, and with a more feeble and rapid pulse—150 per minute. Another alarming symptom was an apparent somnolency, which, according to some authors, marks only the worst cases. Thus, Dr. Stillé says (*Therapeutics and Mat. Med.*, ii, p. 55), "At no period in the progress of the symptoms, *until death grows imminent*, is there the least tendency to sleep; on the contrary, there is an obstinate insomnia; and

yet on the recovery of the patient he retains no distinct recollection of what has occurred."

Next morning he was able to walk and to read large type. Some abnormal dilatation of the pupil and vertigo remained during the day; by evening he was quite well. *Opium* and *Morphia* constituted the principal portion of the treatment.

48. *American Journal of the Medical Sciences, New Series*, 1862, vol. xliv, p. 427.

Experiments on a large male cat with *Tincture of Stramonium*.

Cat full grown, and in fine healthy condition. Gave sixty drops to it at 2.14 p.m. Had not eaten anything since 4 p.m. yesterday.

In two minutes commenced frothing slightly at the mouth, and two minutes after commenced sneezing and coughing.

2.23 p.m.—Vomited slightly a frothy liquid of a greenish-yellow colour. Pupils dilating.

2.27 p.m.—Thrursts tongue out between teeth, and opens and shuts them on it. Tongue red, and apparently swollen; frothing ceased; anxious to crawl off in some secluded place; mewing.

2.36 p.m.—Had a discharge of urine; mewing, and uneasy.

2.42 p.m.—Lying on chest and abdomen; quiet; perfectly conscious of what is passing. Slight vertigo; staggers when walking.

2.50 p.m.—Quiet, lying as if asleep; remained in this state till 3 p.m., when he got up and walked around, mewing.

3.7 p.m.—Lay down with head between forepaws, as if asleep; remained thus till 3.17 p.m. Woke up uneasy; commenced walking about and mewing, continuing in this state till 3.30. Quiet and drowsy.

3.40 p.m.—Gave sixty drops more of tincture; swallowed most of it; passed urine involuntarily two minutes afterwards. Five minutes afterwards walking stupidly around, mewing; considerable vertigo; pupils dilated.

3.50 p.m.—Vertigo increases, can hardly walk; uneasy; dimness of sight; continued in this state till 4.5 p.m., when he became quiet, lay down and slept; breathing easy. At 4.15 p.m. vomited slightly a small quantity of greenish gelatinous fluid, which aroused him.

4.20 p.m.—Became uneasy; walking about, mewing; running

against objects; blind. At 4.30 p.m. became quiet, and fell asleep.

4.35 p.m.—Gave forty drops more; in about two minutes involuntary passing of urine; became very uneasy; mewling constantly; quite blind; cannot walk without falling over from side to side; breathing laboured. This uneasiness lasted till 4.50 p.m.; quiet, apparently sleeping; pulse slow, heavy, and feeble.

5 p.m.—Woke up very uneasy; endeavoured to walk about.

5.5 p.m.—Gave forty drops more. In two minutes became quite conscious; breathing laboured. Five minutes after, aroused; anxious; mewling; unable to stand. In ten minutes afterwards comatose; lying on one side; pupils very much dilated. In fifteen minutes afterwards moving round in a circle; mewling; 60 inspirations per minute.

5.33 p.m.—Gave forty drops more. Two minutes afterwards, lying on side; comatose; breathing laboured; 48 inspirations per minute.

5.40 p.m.—Still comatose; legs in constant motion; the fore- and hind legs on one side move together in same direction; motion alternate, first on one side and then on the other.

5.55 p.m.—Heart beats 50 to the minute; breathing heavy.

5.58 p.m.—Heart beats 40 per minute, feeble; comatose.

6.15 p.m.—Comatose; 40 inspirations per minute. Continued thus till 6.30 p.m.

6.30 p.m.—Gave thirty drops more. After a short struggle he fell down comatose; heart beating slow, heavy, and feeble; breathing heavy and difficult. Continued thus till 7.6 p.m.

7.6 p.m.—Motion in limbs ceased. Eight minutes after, slight motion, with an attempt to move limbs. Respiration ceased at 7.50 p.m. No rigidity of muscular system; whole body limber and flaccid.

Post-mortem, fifty-five minutes after death.—No rigidity of muscles; limbs relaxed and limber; general venous fullness. *Jugulars* distended with dark blood. *Mesenteric veins* gorged with dark blood. *Bladder* full; walls thin and flaccid; no contraction. *Intestines*, distended with gas, presented a knotted appearance. *Stomach*, mucous membrane healthy; contents, about two ounces of a watery frothy mucus. *Duodenum* filled with gas; healthy; contents, small quantities of food and bile.

Jejunum quite empty, slightly congested in spots and lines. *Ileum* more congested than *jejunum*, but congested very slightly; contained small quantity of fæcal matter. *Cæcum*, *colon*, and *rectum*, filled with fæcal matter; healthy. *Kidneys* very much congested. *Portal veins* filled with dark blood. *Gall-bladder* filled with dark bile. *Lungs* very much congested; filled with dark blood and frothy mucus. *Heart* quite empty; *venæ cavæ* filled with dark blood, which contains considerable clot. *Æsophagus* very white and pearly. *Pharynx* and *fauces* the same. *Brain* slightly congested; vessels all full; slight effusion in ventricles; considerably congested in membranes.

49. *American Journal of the Medical Sciences, New Series*, 1864, vol. xlvii, p. 552. Reported by Dr. A. Paul Turner.

C. McK—, aged 10 years, and his brother, aged 8, left their home at 10.30 a.m. upon an excursion to some vacant lots at a distance of over a mile from their residence, whence they returned about 3 p.m., and asked for their dinner as if nothing unusual had occurred. While eating, the mother observed a peculiar uneasiness and a tendency to wander from the subject on which they were being questioned, and she asked their comrades if they had not been using intoxicating drinks, but was assured that such was not the case. The two children were then unable to walk. In half an hour the symptoms became more alarming, and I was sent for, and reached the house at 4.30 p.m. I found the children lying on their backs; their eyelids slightly drooping; corneæ very bright; pupils widely dilated and insensible to light; conjunctivæ injected; face deeply suffused, and of a dark crimson colour; an apparent difficulty in breathing; inability to articulate, and in a state of complete insensibility, broken occasionally by a paroxysm, during which they would utter some indistinct sounds and throw the hands about the head as if attempting to ward off some threatening evil; this would soon subside into a semi-comatose state, not the stupidity, however, which results from *Opium*, but rather a state of intense apathy which persisted for a few seconds, when the delirium would again recur, unless sooner produced by the efforts of those about to render assistance, when the state of excitement assumed such a form and violence as to render necessary a certain amount of restraint to prevent escape from the imaginary object which

engaged the attention; occasionally they would grasp at something in the space in front, appear as if he possessed or rejected it, then turn the head as if called by a voice beside them, and attempt to speak to it, the sound resembling a squeak more than the natural tone of voice. Neither of them was able to support himself alone upon his feet, but would take a step or two with a staggering gait, falling to the floor as if intoxicated or in a state of complete exhaustion. During the period of excitement the extremities were in constant motion, co-ordinate only so far as they related to the corresponding limb, yet wanting in that harmony of action which is found in those movements of a higher order, as standing in an erect posture, walking, &c.; there was constant action of the fingers, as if attempting to pick something from the person or bed-clothes; at times they would burst into a paroxysm of excessive laughter, which would persist for some seconds, then suddenly cease; at times they would have a smile so quiet and pleasant that we could not but contrast it with the highly excited state previously witnessed.

To each was given an emetic of *Sulphate of Zinc*, gr. v, and *Pulv. Ipecac.*, gr. x; their jaws being closed, and as they could not be made to comprehend our object, there was no little difficulty in causing them to swallow. Emesis followed, consisting of food and about half a drachm of the seeds. Cold water effusions were employed, and seven drops of *Tinct. opii*.

5.15 p.m.—The *Sulphate of Zinc* was repeated without immediate result, and also the *Opium*. Twenty minutes later, no marked effect having been produced, ten drops of *Laudanum* were given; they are now lying more quiet; dilatation and immobility of the pupils; general appearance unchanged; still insensible, and even when loudly spoken to the eyes would scarcely be turned towards the speaker; still continue to pick at the bed-clothes and grasp at the imaginary objects about them; suddenly move as if spoken to, and apparently attempt to articulate some reply, the limbs being at the same time actively moved, not spasmodically however, but as if attempting to perform some action which failed for want of a proper guiding influence.

6 p.m.—They appear to lie more quiet now, and the iris still remains dilated and uninfluenced when exposed to the action of the light; are not so frequently excited, though at times laugh

immoderately; surface of the body continues very red, though less so than a short time previously. Five drops of *Laudanum* to each.

9 p.m.—Both children are held sitting upon the knees of an attendant, whose attention is fully directed towards preventing them from falling during the periods of excitement, which are less violent and appear to be more in the direction of intelligence. The skin remains as from the beginning, somewhat relaxed, though not moist, and very slightly elevated in temperature; pulse 95, compressible, and full in volume, and has varied but little from this since the commencement of the symptoms, even during the paroxysmal state, and this is to be attributed perhaps to the muscular movements rather than to direct action on the heart. Pupils now are less dilated, though very slightly influenced by light; children are able to articulate, but cannot be made to comprehend questions put to them, and occasionally laugh or attempt to sing. Five drops more of *Laudanum* are given now, and repeated in thirty minutes.

Next day, 9 a.m.—The youngest child was now quietly sleeping, but could be awaked without difficulty. During the night ten drops more of the *Laudanum* had been given to each. The eldest was quietly lying on the bed; pupils more contracted than when last seen, and became more so when exposed to a strong light; skin moist and cool, has lost that efflorescent appearance which was before so strongly apparent; pulse 86; respiration normal; responds *Yes* and *No* to necessary inquiries, but does not complain or attempt to converse; is wholly uninterested in all that passes about him, and as he lies on his side smiles as if amused at some ludicrous idea passing in his mind; at intervals has slept during the night, though frequently disturbed by illusions.

6 p.m.—Much better; pupils nearly normal in diameter, but not quite so susceptible to light as desired; complains of slight dryness of the fauces; some vertigo, with occasional delirium through the day; and the eldest, when asked in reference to his thoughts, replied that he felt as if dreaming, though not asleep.

Next day all were well.

There were five others younger who had eaten the seeds, in whom there was dilatation and immobility of the pupils.

50. *American Journal of the Medical Sciences, New Series*, 1866, vol. lii, p. 278. Reported by Dr. H. G. Evans.

Seven children, aged from 6 to 9 years, had eaten the seeds about 10 a.m. At dinner (noon) two of the boys were noticed behaving in an unusual manner, refusing to eat, and quarrelling with those near them. Very soon a third boy, and by 1 p.m. seven, gave marked symptoms of being victims. I saw them at 2 p.m., four hours after they had taken the seeds. In all seven the pupils were dilated to their fullest capacity. In three this, with slight perversion of vision, were the only noticeable effects; but in the four remaining cases the poison had produced dilated pupils, perverted vision, confusion of intellect, deafness, intoxication, full pulse, slow respiration, entire loss of power of directing the motion of the limbs; no eruption, nausea, or relaxation of bowels; and in a few hours stupor, which was soon followed by obstinate insomnia, and in one case delirium tremens.

By the third day every vestige of the poison had disappeared, the pupils being the last to yield. It was with the greatest difficulty that emesis was produced in the least affected of the seven cases, notwithstanding the powerful means employed; the four worst cases were scarcely nauseated by them.

51. *New England Journal of Medicine and Surgery*, 1820, vol. ix, p. 224. Reported by Dr. T. Pomeroy.

The patient, who suffered from pain in the leg, took pills containing three quarters of a grain of an extract made from the stalks and leaves of *Stramonium*, and half a grain of *Tart. Antimon.*, every hour. Before the expiration of an hour after taking the first he was very sensibly affected, but the second was given him. Immediately the following effects commenced:—Almost total blindness ensued; great prostration of strength; vertigo; aridity of the mouth and fauces, together with vomiting and purging. These appearances continued from six to twelve hours. The blindness was so complete that he called for a candle in the middle of the day.

Orfila's case quoted. See above, *Sigmond's* observations; the two translations differ in one important particular, therefore the original should be referred to in *Bulletins of the Faculty of Medicine of Paris*, 1819, No. 9.

52. *New England Journal of Medicine and Surgery*, 1823, vol. xii, p. 253.

No name is attached to this case.

T. B—, æt. 27, swallowed a large wineglassful of *Tincture of Stramonium* at a draught. He was immediately attacked with vertigo, dilatation of the pupils of the eyes, with double and confused vision, nausea, but not vomiting, and drowsiness, followed by coma. I did not see him till two hours after he drank the tincture. In addition to the above symptoms he was violently convulsed, every muscle in his body appearing to be in violent commotion. He was continually beating his breast with his hands, like a catholic doing penance. His jaws were set as in tetanus; he moaned continually; his breathing was stertorous, and occasionally there was rattling in his throat. His extremities were cold; his pulse nearly obliterated; he had cold clammy sweats, and his countenance was hippocratic. I resorted to friction over the whole surface of his body, applied bladders of warm water to his hands and feet, and endeavoured to restore the circulation. I prepared a powerful solution of *Tartarized Antimony*, and with great difficulty prised open his jaws, and endeavoured to get a little into his stomach by half a teaspoonful at a time. After unwearied attempts he at length swallowed a little of it, but it almost caused strangulation. This was continued for two hours. Deglutition now became almost or quite impossible. In about half an hour after he last swallowed he began to vomit it. He threw up considerable matter, having the smell of *Stramonium*; he was then able to swallow without much difficulty. He remained senseless till morning, when he awoke totally unconscious that anything had happened to him. He still saw indistinctly, and the pupils of the eye remained dilated, but they gradually returned to their natural state. He recovered in the course of a few days.

53. *New England Journal of Medicine and Surgery*, 1825, vol. xiv, p. 375. Quoted from *Medico-Chirurgical Review*.

A suppository containing, with other ingredients, one third of a drachm of *Extract of Stramonium*, was introduced into the rectum of a patient. He became affected with symptoms closely resembling delirium tremens, and nearly died.

54. *American Medical Times*, 1860, vol. i, p. 22. Reported by John G. Johnson.

A boy, *æt.* 7, ate some green seeds (the quantity being uncertain) in the afternoon. About 5 p.m. his mother noticed some hesitation in his speech, and that his face was flushed. As it was some two hours to dinner she gave him an apple to eat; as he divided it she noticed a peculiar twitching of his fingers, and as he handed his mother a portion there was a movement of his hands like a patient with chorea. On biting the apple, which was quite juicy, he said it was dry like flour, and that it hurt his throat; he threw it aside, and lay down on the lounge. His mother inquired if he were sick, and he replied in tones so loud and violent that it startled her. As the twitching increased she lifted him up to get him upstairs, when she found he staggered so as hardly to be able to walk, and in passing through the door fell against it. An emetic was given at once. I first saw the child at 7 p.m., about two hours and a half after he had eaten the seeds. He was then tossing violently in his father's arms, with a spasmodic twitching of the hands, like a child agitated and suffering from chorea. The pupil of the eye was enormously dilated, more so than I have ever seen from the full action of *Belladonna*; the face, and especially the mouth, was much swollen; he was perfectly blind, the full flash of the gas failing to produce the slightest contraction of the pupil. There were such violent movements of the hands and subsultus tendinum that it was impossible to count the pulse. The heart's action was feeble, but not increased in frequency. There was no perspiration in any part of the body. The feet and whole lower extremities were cold and palsied, and hung powerless over the father's lap, in marked contrast to the rest of the body, which was so much agitated. There had been some emesis from the emetics given, but not free; a tablespoonful of mustard and another of salt were immediately mixed with warm water, and pressing the tongue strongly down I attempted to make the child swallow it; considerable difficulty, however, was found in deglutition, and such severe symptoms of strangulation supervened that the parents would not allow me to repeat my endeavours to make the child swallow. Free vomiting soon followed, consisting of food and seeds. As there had been no action of bowels, a strong soapsuds enema was given. The child now

seemed to be going into convulsions, and his head was immediately placed under the cold shower-bath, while his body reclined in warm water, as the coldness of the limbs had increased. Strong coffee was also forced down, though with great difficulty, as the child seemed to choke at every attempt to swallow.

9 p.m.—The child has had no convulsions; is picking at imaginary bodies in the air, and has a violent maniacal action; cannot articulate, but the words he attempts are loud and harsh; the pupil is extremely dilated, and does not respond in the slightest degree to light; the coldness of the extremities and loss of power marked. Coffee continued.

10 p.m.—Hears sounds more distinctly. His brother played on the guitar, and sang a favourite tune; boy noticed the music, but turned in an uncertain manner towards him; attempts to sing, but cannot; is very violent in the attempt to articulate; involuntary movements of his hands continue; pupils still dilated; extremities cold and palsied. Continue coffee.

5 a.m.—Pupil still enormously dilated; perfectly blind; hearing good; cannot tell whether the gas is lighted or not; the pupil does not contract in the slightest from the full glare of the light on it; the limbs are still paralysed; some improvement in his speech, can now articulate more distinctly, but not so that a stranger can understand him; the same fierceness in his speech continues. The bowels now moved for the first time since eating the seeds; choreic movements of hands continued. As he vomited every time the coffee was given it was suspended.

7 a.m.—Swelling of face subsiding; twitching of the fingers continues; the pupil is dilated as before, and he cannot tell whether the light is burning or not, though his face is turned to the gaslight; there is now a more distinct utterance, but the voice continues loud; he has no power over his limbs.

Thursday morning (next day).—Pupil does not respond to the light, though it is now forty hours since taking the *Stramonium*. Twitching of fingers is much less, and he has considerable fever; he still picks at imaginary objects.

Friday morning.—Pupil responds better to the light, and he sees more distinctly; the brilliancy of the eye is less marked; power of legs is restored; he wishes his playthings, and has more desire for food.

Saturday morning.—The pupil responds well to the light,

though not perfectly. There is some redness of the fauces still remaining, and the child is unusually nervous.

55. *American Medical Times*, 1860, vol. ii, p. 128. By Dr. G. T. Elliot.

A lady made an infusion of four ounces of *Stramonium* leaves to 1 pint of boiling water, and injected a quarter of it into the rectum. She almost instantly came staggering wildly into her bedroom, and fell upon the bed unconscious. I found her with her countenance flushed; eyes staring stupidly; pupils widely dilated; muttering incoherently, and unable to reply to questions; restless, uneasy, tossing, throwing herself suddenly forward; striving to get out of bed; grasping with her hands vaguely, as though under the influence of spectral illusions; picking at the bedclothes; pulse rapid and feeble; expectorating occasionally thick mucus, without regard to where it fell. When allowed to get up she staggered vaguely in a purposeless manner, and appeared quite blind. An enema of warm water was given. After some time she began to show signs of improvement, and a tendency to sleep, from which, however, she would every little while wake suddenly, and present all the symptoms described. She remained in a similar state all next day, though able to speak; but on the following morning she recognised her friends. The pupils remained dilated for a week.

Dr. Elliot refers to another case published by him in the New York Journal of Medicine. This case is given below as copied by the *Dublin Medical Press*, but the *original* should be examined.

56. *London Medical Review*, 1863, vol. iii, pp. 50-5.

(Copied from *Schmidt's Jahrbuch*, 1862, No. 4.)

CASE 1. — An Austrian sergeant, æt. 61, took about two ounces of the tincture of the seeds, made with brandy, at bedtime for cramps in the legs. He had only two hours' restless sleep, and on waking experienced convulsive twitchings of the hands and feet; nevertheless, on the following morning he took two ounces more, and gave the same quantity to each of four soldiers who were suffering from granular ophthalmia. All five men had the following symptoms:—Brilliancy of the eye, excessive dilatation of pupil, which was insensible to light; turgescence and redness of the face; giddiness and unsteadiness

of gait. The sergeant, who had taken two doses, had violent and continuous tremblings of the limbs, and was unable to understand or answer any questions.

CASE 2.—Copied from *Journal de Chimie Médicale*, February, 1862. This case is by Dr. Liegey, and is given more fully below.

CASE 3.—Dr. Lee's cases referred to. See original above.

57. *Medical Times*, 1847, vol. xvi, p. 650. Reported by Dr Stobo. The case occurred at Tortola, West Indies.

A boy, aged about 5, ate more than a drachm of ripe seeds, slightly roasted. When seen, about an hour afterwards, he appeared much excited and rather delirious; under the impression of some immediate danger, clinging to the person who held him on her lap. Pulse about 120; face flushed; eyes of a peculiar dazzling lustre, pupils dilated; convulsive motion of the limbs and neck; thick frothy saliva about the mouth. Emetics and *Castor oil* were given with effect. The boy seemed relieved for the moment; the eyes were in the same state; the tossing about of the limbs was rather increased; the pulse had risen in volume and frequency, with much flushing of the face, &c.; the skin, naturally pale, became of a bright copper colour; the temperature of the body was much increased. Repeated *Castor oil* and bled him.

10 p.m.—Pulse about 100; skin and head cool; appearance of terror worn off, but in its place maniacal *vigilium*, unceasing motion, and a disposition to sing. *Opium epithems* to head.

Next day.—Has not slept during the night; pulse 98; skin cool; eyes more natural; has been constantly moving over his mattress singing and talking; bowels have been moved. The restlessness wore away during the day. *Opium*, *Spt. Æth. Nitr.*, and *Camphor*, to be given at bedtime.

Third day.—Slept well; asked for food on waking; a slight idiotic expression; a little reduced.

58. *Medical Times (Medical Times and Gazette)*, 1852, vol. xxv of Old Series; vol. iv of New Series, p. 197. Reported by Drs. Gould and Thurston.

A lady took some infusion of the seeds. She had headache, dryness of the throat and fauces, faintness, difficulty in walking,

languor, and impairment of vision, pupils greatly dilated. Three others had been similarly affected by it. One of them suffered with contraction of the muscles and swelling of the hands and feet.

59. *London Medical Repository*, 1820, vol. xiii, p. 259.

Orfila's case quoted. (See above.)

60. *London Medical Repository*, New Series, vol. i, p. 70.

Extract from *Med. Chir. Review*. (See above.)

61. *London Medical Repository*, 1821, vol. xv, Old Series, p. 337.

Case by Sarlandière. Copied from the "Bulletin of the Medical Society of Emulation," in the *Revue Médicale* for February,

A man and his wife took an enema containing *Stramonium* and *Papaver nigrum*.

Dr. Sarlandière found the man in a state of permanent convulsion with commencing symptoms of opisthotonos, the eyes being fixed and open, and the pupil so much dilated that the circle of the iris was scarcely perceptible; the limbs were at first convulsively moved in an automatic manner, which movement afterwards gave place to a kind of tetanic spasm. The woman was likewise affected; she was, however, without the convulsive agitations of her husband; but she had fixed eyes with excessively dilated pupils. Purgatives and acid injections and drinks were given.

At the end of about an hour from the commencement of this treatment the spasmodic rigidity gave way, and he almost immediately placed himself in his bed, in the same attitude as when sitting on his board (he is a tailor), and now the symptoms of somnambulism became completely marked. He was imaginarily engaged in his usual occupation, appeared to be extending or folding up cloth, took hold of something which he supposed to be a needle, appeared to be threading his needle, and made a knot on the imaginary thread. Sometimes, supposing that he had let the thread slip, he renewed the operation of threading; and he appeared to make several unsuccessful attempts at pushing it through the needle's eye, till at length he seemed to have succeeded. All endeavours to make him hear and see were

fruitless. He took not the smallest notice of loud sounds addressed immediately to his ears, nor did he regard any object placed before his eyes, intent only on his imaginary occupation. At times he seemed to conceive that some one had entered the room, and his countenance then assumed a smiling aspect, and he moved his lips as if speaking (no sounds, however, were emitted); the motion of his lips then ceased for some time, and he appeared to be listening to the reply of the visitor. He occasionally made the motion as if of spitting, though in effect he did not spit. Now he seemed occupied in measuring for clothes, now in arranging and folding his cloth, cutting it with his scissors, and, in fact, doing everything in the way of his calling. He was thus occupied for fifteen hours, without eating or drinking anything, excepting a few spoonfuls of citric lemonade, and this it was difficult to make him take. By degrees he recovered the power of speech; he then commenced a conversation, imagining that he received answers to his remarks. It was not till towards the evening that he actually understood what was said to him, and replied rationally. His sight was not restored till after the return of his speech; he shortly, however, was able to distinguish the persons who were about him. His head, notwithstanding, still continued to run upon his business; he persevered in his supposed employ, and actually conceived that he was making use of his trade utensils. At Dr. Sarlandière's sixth visit he was under the same delusion; he was conversing familiarly with those about him, but still on the subject of his business; and all endeavours to convince him that he was not on his board, but in his bed, proved unavailing. Dr. Sarlandière now held a watch to his ear (at midnight), letting him hear it strike the time, and telling him that business had better be abandoned for the present, or it would prove too fatiguing, injure his health, and prevent him working next day. The patient now descended from his imaginary board, undressed, and laid himself down to rest. During the rest of the night he was calm, with the exception of some involuntary startings; and on the following day his senses returned. A slight fever followed.

In the case of the woman she found herself almost immediately affected with giddiness; her arms seemed to have the weight of lead; she saw thousands of flies about her, to which succeeded a number of serpents, lighted kilns, and apartments

hung with black; but in the midst of these objects she occasionally perceived those by whom she was really surrounded; she saw her own apartment, her husband, her furniture, &c. She continued the whole of the day sitting in a chair, and she thought that needles, scissors, and pieces of cloth lay about her. Sometimes she tried to lay hold of these things in order to occupy herself at her accustomed work, but they seemed to elude her grasp. Sometimes she felt that she had succeeded in getting hold of them, and she set about using them as usual. The above she afterwards related from recollection; and Dr. Sarlandière had noticed that her actions during the paroxysm corresponded with her accounts. In her, as well as in her husband, the pupil was excessively dilated; the eyes themselves were fixed and fully open; but throughout she was more alive to her actual condition, and when questioned as to the cause of her disorder, she attributed it to the enema she had taken in the morning. Sometimes she suddenly started, as if urged by a momentous impulse; sometimes she rose up as if to run rapidly from a pursuing enemy. But during the whole time she preserved the use of her speech, her ears, and even her eyes, when her attention was forcibly called to surrounding things.

62. *London Medical Repository*, 1827, New Series, vol. iv, p. 422.

Dr. Meig's case, copied from *North American Medical and Surgical Journal*, for January.

CASE 1.—A young girl had swallowed a number of the seeds. She was insensible, completely tetanic, and had a very dilated pupil.

CASE 2.—The effect produced on some of the first settlers in Virginia was a high degree of intoxication.

CASE 3.—A girl, aged 2½ years, ate some seeds in the forenoon.

The first symptom was a high degree of exhilaration, in which she excited much merriment by her extravagant gestures and speeches. This soon became alarming; and when I was called to see her she was laughing, crying, and singing by turns, proceeding from one to the other state with the greatest rapidity. She occasionally started with great force and alarm, crying out that she was going to fall; when she would cling to her mother with as much desperation as if she was about to be thrown from a

precipice. She would next become calm, then whistle, and afterwards point with her finger at *muscæ volitantes*, which she followed with her eye and hand, at last clutching at them, with an appearance of disappointment at the want of success. The colour of her face was of a scarlet red. I have certainly never seen so intense a red in scarlatina. Her skin was hot; pulse much accelerated; tongue and fauces dry and red; the former was so dry that it glistened. The face, neck, and breast were covered with hundreds of small brilliant petechiæ, many of which had a stellated form.

After an emetic and purgative the central symptoms gradually diminished till midnight, when she fell asleep.

Second day.—Tolerably well. The petechiæ still quite evident, not being much changed. A troublesome itching of the whole skin, which came on yesterday, was gone.

Fourth day.—Child is well, but petechiæ not gone.

Twelfth day.—Petechiæ no longer visible.

63. *Medical Facts and Observations*, 1794, vol. v, p. 78. By Dr. James Johnson.

About 5 p.m., November 12th, Miss S—, æt. 20, swallowed some seeds. In three hours she began to be sick; took an emetic of mustard, which acted.

11 p.m.—Had vomited several times; took a purgative, which produced several stools. She passed a restless night, complained of great pain of her stomach and left arm; fancied she saw objects which did not exist, and had repeatedly a sensation of a flashing light, which made her think that she saw it lighten.

November 15th.—Sickness and pains of stomach had continued till now.

17th.—No complaints but weakness.

Dr. Rush's case is now quoted from *Transactions of American Philosophical Society*, vol. i, p. 818.

A girl, between 3 and 4 years old, ate some seeds. She had fever, delirium, tremor of limbs, and a general eruption on her skin; the tremor still continued at times in her hands for a week; she was blind and stupid; pupils much dilated; she caught at the bedclothes and everything around her, like a person in the last stage of a fever.

Lobstein's cases quoted from *An Appendix to Dissertatio de*

Vegetabilibus Venenatis Alsatiæ. By F. A. Guerin, 4to, Strasburg, 1766.

About 5 p.m. a girl æt. 9 and a boy æt. 6 ate some seeds.

At 9 p.m. the girl complained of lassitude and went to bed. Her mother soon afterwards, finding her feverish, and talking in her sleep, gave her something warm to drink. She continued in this state till 1 a.m., when the boy also had become extremely restless. At 7 a.m. they were both much convulsed; faces and cheeks swelled; lips of a dark red; eyelids swelled and closed; on separating eyelids, pupils were found to be much dilated, the eyes themselves were convulsed. Their bellies were tumid but not hard. When they were loudly spoken to, or when anybody touched them, their convulsions became more frequent and violent. In each the tongue was swelled and protruded out of the mouth; and their fauces were so constricted that respiration was performed with difficulty. By degrees the spasms became less violent, and their skin, from being intensely hot, became moist; their pulse was still quick, but softer. They now rejected every kind of liquid, and seemed to labour under hydrophobia; for on offering a cup of drink to them, the moment it touched their lips the spasms returned with great violence. Emetics and clysters were given. Their bellies now became less tumid; breathing was easier; and the swelling of their faces subsided. Lemon juice and vinegar and water were given them.

11 a.m.—The girl more quiet, but still at times convulsed. She drank freely of vinegar and water; her pulse was softer; she perspired considerably; the tumefaction of her belly had subsided; she was free from delirium, but the pupils were still dilated. The boy remained unrelieved.

8 p.m.—The girl was sufficiently restored to give her friends an account of the plant, the seeds of which they had eaten. She had had some refreshing sleep, but her pupils were still so dilated as not to contract on the approach of a candle. The boy likewise now began to mend, and at 11 p.m. opened his eyes and spoke to those about him.

The next day they were both of them pretty well recovered.

Fowler's case quoted. (See original above.)

References also given to Murray's *Apparatus Medicaminum*, 8vo. Gotting., 1776, tom. i, p. 456; and to Woodville's *Medical*

Botany, vol. ii, p. 338 ; also to Anderson in *London Medical Journal*, vol. x, p. 285.

64. *London Medical Journal*, 1789, vol. x, p. 285.

Apparently an editorial paper.

The dried leaf produces intoxication.

In the minutes of the Hospital Board (Madras), Dr. Anderson says, " The seeds of one apple are sufficient to induce immediate apoplexy, and death in five or six hours."

65. *Medical Circular*, 1860, vol. xvii, p. 214.

Anderson's case copied from *Edinburgh Medical Journal*. (See below.)

66. *Essays and Observations*, Edinburgh, 1756, vol. ii, p. 247.

Dr. Abraham Swaine's case.

A man, æt. 69, drank a decoction in milk of one and a half apples of *Stramonium* about 8 a.m., fasting. Presently afterwards he became vertiginous or giddy, and therefore rose from his chair to take the air, with an intention to pluck more fruit. In walking 200 or 300 yards from his house, he staggered as if drunk, feared he should fall upon his head, and that he was about to lose his senses, but had no sickness or the least inclination to vomit. As soon as he got home he went to bed, and complaining of an excessive dryness of his tongue and throat, a little water mixed with wine was given him ; he also felt an odd sensation of dryness in, and violent girding across, the thorax. In less than half an hour he began to falter in his speech, became insensible, restless, and muttered frequently, in which condition I found him. His extremities, and also the trunk of his body, were cold ; his pulse small and quick. He often raised himself on his knees, continually stretched out his arms, and employed his hands as if searching for something he wanted ; his eyes were dull and heavy ; after some time he became dumb and more quiet ; had almost no pulse ; and upon his being taken out of bed, that it might be put into better order, his limbs were visibly paralytic. Although he changed postures a little, yet he remained stupid for six or seven hours, then he raged furiously, requiring two persons to hold him in bed ; notwithstanding which he raised himself up, tossed greatly, and seemed to catch

at the bystanders with his hands, uttering incoherent sentences. At last he became sensible and more quiet; restless and delirious by turns. At about 10 p.m. of same day perfectly recovered.

After taking a purgative he slept well all night, and had several stools in the morning. For the space of fourteen hours he neither slept, vomited, nor discharged anything by stool or urine, though he frequently passed urine at other times, being grievously afflicted with the gravel.

67. *St. George's Hospital Reports*, 1868, vol. iii, p. 159. Reported by Dr. C. Paget Blake.

The patient who was about 70, a fine, tall, stout, well-built man, suffering from asthma, took one and a half drachms of *Tincture of Stramonium* about 1 a.m.

He had gone to bed about 11.20 p.m., and had been heard pacing his room, and making an unusual noise up to a late hour. The last time he was heard moving was about 4 or 4.30 a.m. About 7 a.m. they rapped at his door as usual, but obtained no response. At 8 a.m. they tried to open the door, but found some resistance. They pushed it open by force, and then saw the patient lying on the floor in his night shirt, with his feet at the door, as if he had been pushing against it, and his head right under the bed. They spoke to him, and tried to make him reply, but found him cold and apparently dying. I was at the house in seven or eight minutes, and on going to the bedroom found a strange sense of disorder as regards the furniture, and the patient in an alarming state of collapse, just in the position in which he had been discovered. The features were sunken; the skin icy-cold, and covered with clammy sweat; the hands and feet livid (the former much bruised); no pulse to be felt at the wrists; the heart's action excessively feeble and intermitting; the pupils so contracted as scarcely to be discernible, smaller than I have ever seen in a cat's eye. I endeavoured to pour a little brandy down the throat, but there was not the slightest attempt at or power of swallowing.

He remained perfectly unconscious and could not be roused; paid no heed to the loudest shouting; did not feel the smartest pinching; while the arms and legs, when lifted, fell flaccid and lifeless. There was terrible dyspnoea; indeed, the function of respiration was rather a succession of deep gasps and sobs, and

the little vitality still left in him seemed becoming rapidly expended by the tremendous effort and increasing struggle to breathe.

The first evidence of returning power was that of a slight gurgling in the throat, induced by my pouring a teaspoonful of brandy into his mouth, and then tipping the head gently back to help it down the throat. This gurgling continued about two minutes, when I thought he made a slight attempt to swallow, but the presence of the brandy instantly produced a violent spasm, and it was again seen running from the mouth. After about two hours there were signs of returning animation. The pulse was perceptible at the wrist; the heart's action became firmer; the breathing less gasping, and the surface warmer. I had an immensity of trouble still to get him to drink the smallest sip of brandy and water. Every attempt at deglutition brought on a spasm, evidently from violent constriction of the pharynx. As the powers of life gradually returned there was a constant sort of gulping, as if striving to swallow even when no fluid was being given, and it appeared to be the cause of much distress to him, though he was still unconscious. *Sulphate of Zinc* was given, which caused the ejection of the whole contents of the stomach. He then gradually rallied, opened his eyes, and stared wildly about him, though evidently unable to see anything; the pupils still intensely contracted, and on waving the hand before them he never blinked or took the least notice. I now gave him *Ammonia* and *Æther*. There was still the same terrible spasm of the throat at each attempt to swallow, like that in hydrophobia, but still the fluids did pass eventually, after much struggling, but there was no other kind of convulsive movements in any other part of the body. The *Ammonia* and *Æther* draught was vomited almost immediately, and at the same time, from this effort, a large quantity of peculiarly offensive urine passed involuntarily. The vital powers now gradually returned. About 12.30 the pupils began to expand, and vision gradually returned. He looked inquiringly round the room, and with some degree of terror, apparently wondering at the strange scenes dawning upon him. He continued gulping, as if striving vainly to get rid of some substance in the throat; and he made ineffectual attempts to speak, but not a syllable could be articulated; the mouth was too dry and parched; the secretion of saliva being evidently entirely

suspended. Before 1 p.m. the *Castor oil* he had taken acted, bringing away a highly offensive evacuation. Shortly afterwards smart reaction set in. The face became flushed; the head congested. He muttered unintelligible sounds, looked wildly around, and could not be made to do what he was told, though he apparently understood all that was going on. He kept wanting, seemingly, to clutch at some person or persons whom he imagined were before him, but he could not use his arms, though he tried to do so. There were no convulsions, but the arms and legs were quite rigid, and when they were moved remained in any position in which they were placed.

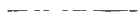
The room presented a disordered appearance; all the furniture was displaced or broken, and the whole apartment appeared as if a desperate struggle had taken place.

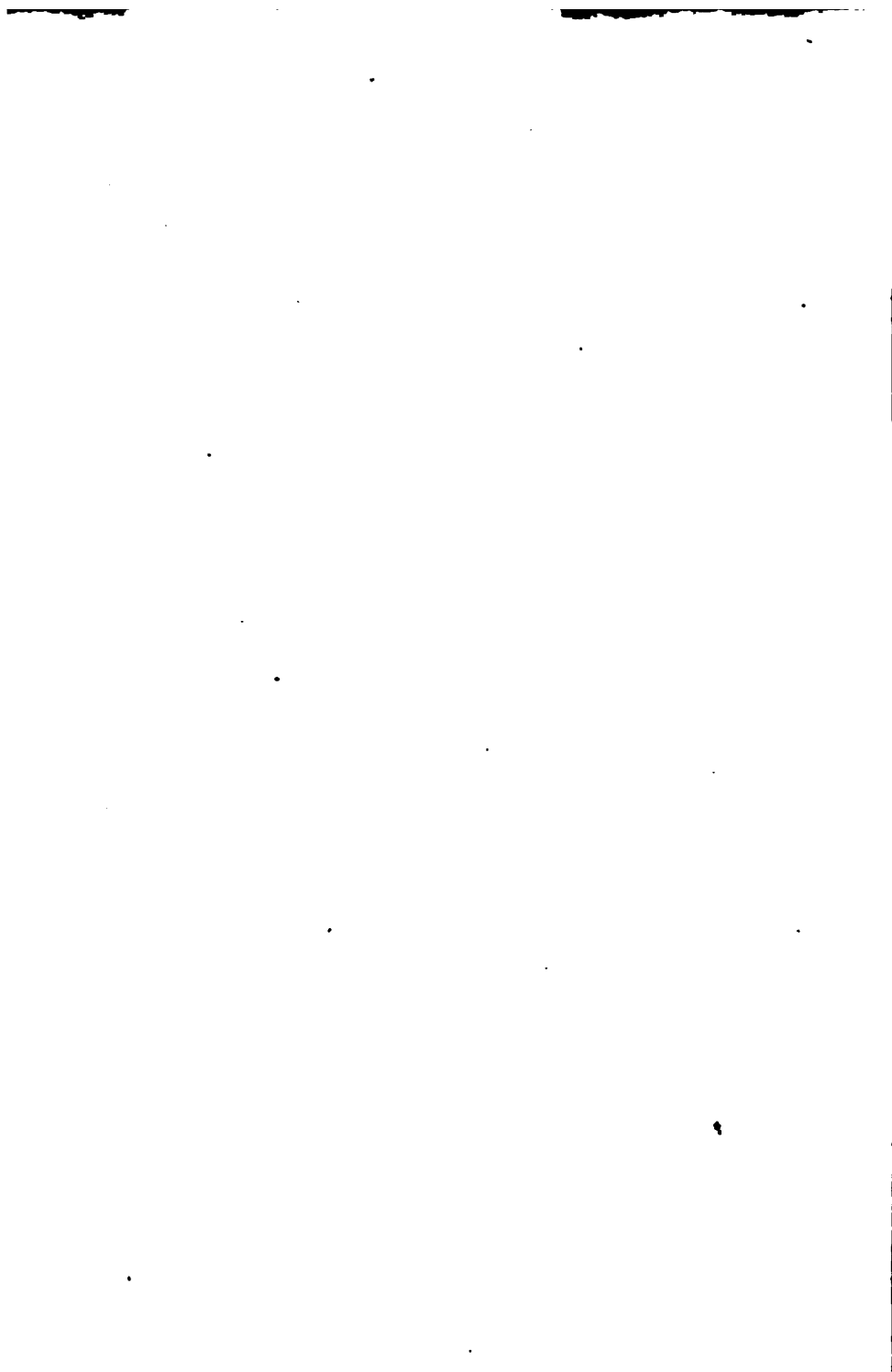
He kept improving all that day, but wandered in his mind and could not articulate. He took what was given him; became more tractable and gentle; and all the different symptoms gradually disappeared. He could not, however, speak at all intelligibly till the end of the next day, and then continually misplaced words; calling his head his foot, his arm his leg, and misnaming the things he required, though ludicrously unconscious of his perpetual misnomers. All this day, too, he simply answered when spoken to, but never volunteered any remarks, and was constantly muttering a strange jargon of sentences. It was several days ere he could converse without calling something by a wrong name.

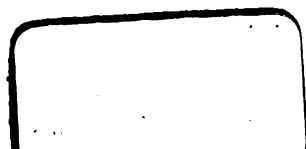
At my evening visit on the third day he could speak with tolerable distinctness, but thickly, like a person with quinsy, and the throat and tongue were painfully dry, the glands of the mouth not yet fulfilling their natural functions.

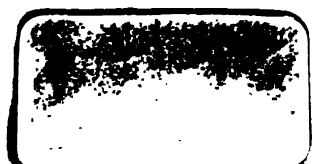
By the fourth day he was convalescent, but complained of much tingling of lips and itching of skin.

He now said that he took the dose about 1 a.m., felt dizzy and stupid shortly after taking it, and laid down in his bed about 1.30, thinking he was likely to drop off to sleep directly. He could not remember anything more till three days afterwards, when he saw me by his bedside (at my evening visit), and that he then began to wonder what was going on, and what had happened in the long interval which he felt sure had elapsed since he went to bed. Whatever had been going on was unknown

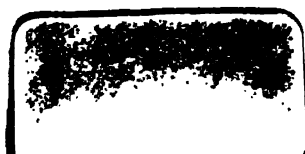












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